Competency Based Pilot Evaluation
For the Illinois State Board of Education

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Executive Summary

In 2016 a Competency-Based Education (CBE) pilot program was established under the *Postsecondary and Workforce Readiness* (PWR) *Act* (110 ILCS 148). The Illinois State Board of Education commissioned the evaluators to develop and conduct an evaluation of this CBE pilot. The ISBE requested both an implementation and an outcomes evaluation. Implementation evaluations focus on whether a program is being implemented as it was intended. It asks questions regarding what and how a program is being implemented, who is participating, what activities are taking place, and what the barriers/facilitators to implementation are. It is intended to be a tool for providing information to aid in making adjustments to programs to help them be more successful. Outcome evaluations are meant to measure the effects of the program on participants. We need to add a precaution about this outcome evaluation. Of necessity, this is a preliminary evaluation given that the first application year for CBE pilot sites was 2017 with the first cohort implementing in 2018-19 (AY19). Thus, this year, AY22, is the first in which implementation had begun for students for a full four-year AY22 for the earliest implementers. Furthermore, initial implementation is typically not fully mature, so the outcomes to this point will reflect that. Having said that, it is important to monitor the outcomes from the start of a program both to observe student trends and to establish a baseline for comparison as implementation continues.

We employed a mixed method design, gathering data through interviews, surveys, and school and student level data requests through the ISBE. We have provided the results in several sections. For the implementation evaluation we have provided an analysis of the interview and survey data, and a descriptive analysis of the school level and student level data. We analyzed the interview and open-ended ended data using a qualitative analysis software program to identify patterns in the responses. In a systematic literature review of CBE studies, Evans et al. (2020, pp. 13-16) identified an extensive list of "facilitators" and "barriers" to implementation of K-12 CBE based which we have provided in Appendix A. Using a qualitative analysis technique known as pattern matching, we made use of these to help inform our interpretation of the facilitators and barriers identified by program stakeholders in our interviews and surveys. We looked for similarities and differences between the experiences of stakeholders of the Illinois CBE pilot sites and those themes identified by Evans et al. in their extensive review of the CBE literature. Several themes emerged from the interview analysis: CBE impacts educators, systemic issues that hinder implementation, systemic themes that support implementation, CBE impacts on students, and structural issues that support implementation. We describe these in greater detail in the discussion of the interview results.

Survey results were mixed. The purpose of the survey was to gather data about what stakeholder perceptions were regarding the implementation of the program, and to gather data on perceived strengths and weaknesses of implementation to this point. The surveys were distributed to all stakeholders with the help of ISBE staff and school contacts. We received survey results from 16 primary contacts and 357 total stakeholders. For the analysis we sub-divided the stakeholders into three additional sub-categories for comparison: teachers, students, and parents. As with all surveys, these replies reflect the attitudes of respondents who chose to reply, so results should be interpreted with caution. The largest group of respondents were parents and teachers, and they tended to rate perceived benefits and successes of CBE much lower than students and designated

school and district CBE contacts. However, this result was somewhat mitigated by analysis of correlations related to survey questions. There were significant correlations between answers to questions about level of staff and community support and several questions related to success of implementation and perceptions of student success. There were even stronger correlations between the responses about success of implementation and perceptions of student success, when paired with responses to questions about whether a site had clear goals and strategies, and opportunities for faculty to collaborate.

For the outcomes analysis, we have provided a descriptive comparison of school-level outcomes for CBE participants and non-participants both overall, and in a matched pair design. We have also provided descriptive student level analysis comparing outcomes for reported CBE participants and non-participants, as well as a matched pair design comparing outcomes for CBE and non-CBE students nested in the same high school. The school level outcome measures for high school completion, and postsecondary entry look essentially the same regardless of CBE participation. At the student level of analysis, CBE participation was associated with higher rates of high school graduation both in the non-experimental (unmatched students) and quasi-experimental (matched students) analyses. In the non-experimental analysis, CBE participation was significantly associated with lower rates of postsecondary entry within 12 months of high school. However, in the quasi-experimental design, these differences were somewhat mitigated for postsecondary entry. Postsecondary entry was lower overall, for African American and Hispanic/Latinx students, but the differences were not statistically significant. Here again, we caution that this is a preliminary analysis before any schools have had a full four-year cohort of students progress through high school since CBE implementation began.

I. Introduction

The Illinois State Board of Education commissioned the evaluators to develop and conduct an evaluation of the Competency-Based Education (CBE) Pilot Program implemented by the Illinois State Board of Education pursuant to the Postsecondary and Workforce Readiness (PWR) Act. The ISBE has outlined that the report include both an implementation evaluation and an outcomes evaluation.

Implementation evaluation:
This implementation evaluation will answer the following questions:

- To what extent does the CBE Pilot site programming impact students, student achievement, families, and educators?
- To what extent is competency-based education provided in participating Illinois CBE Pilot sites (e.g., number of students participating, geographic distribution of sites, type of CBE programs implemented)?
- What is the annualized impact of the CBE programming on objective outcome measures and practices, innovation, and increased student performance following students for at least one year post-graduation or departure from high school?
- What are the characteristics of CBE Pilot sites?
- How well do the CBE Pilot programs implement clear systematic communication plans for reporting milestones and accomplishments to local boards of education and stakeholder groups?
- How do Illinois CBE Pilot program scope, scale, structure, and implementation compare to other States with competency-based education programming in the United States?
- What structural or systemic issues do K-12 Districts in Illinois face that hinder the implementation of best competency-based education practices and innovation?
- What structural reforms need to be undertaken in order to optimize competency-based education program and implementation performance?
- What accountability structures exist for CBE Pilot sites?

Outcomes evaluation:
The outcomes evaluation includes self-reported measures of success from stakeholder groups, descriptive statistics, and data analysis of CBE outcomes compared to similar non-CBE participants.

- As part of the evaluation, the Vendor shall examine the existing CBE Pilot sites and compile evidence of effectiveness based on student evaluation, input from business and industry partners, educators, local boards of education, and families in addition to specific databases that contain longitudinal trend data at the school and district level.
- The evaluation must include a list of student-earned certifications/credentials and numbers associated with each for the past five years (fiscal years 2016-20) at all schools, including the Area Career Centers.

A. Illinois CBE Pilot Overview

In 2016 a pilot program was established under the *Postsecondary and Workforce Readiness*

(PWR) *Act* (110 ILCS 148) which authorized the implementation of competency-based education systems in Illinois. According to the Illinois State Board of Education's *PWR Overview* (2021a, p. 1), the Act "applies a student-centered and competency-based approach to support Illinois students in preparing for postsecondary education and future careers. The Act implements four aligned strategies that require coordinated efforts among school districts, postsecondary education institutions, employers, and other public and private organizations." The Illinois Learner Competencies Working Group Guidance Document summarized the four strategies this way (2018, p. 30):

- The act establishes the **CBE pilot program**. The CBE pilot program enables school districts to replace course-based high school graduation requirements with competency-based expectations, coupled with flexibility regarding state laws and regulations that impede a competency-based approach. Nineteen Illinois districts are engaged in development.
- Under the PWR Act, the state's four education agencies adopted a new **Postsecondary and Career Expectations (PaCE) framework** that outlines what students should know about college, career, and financial aid each year from eighth to 12th grade.
- The act establishes a voluntary system for school districts to award **College and Career Pathway Endorsements** to high school graduates, signifying that the students are ready to pursue postsecondary education or enter a career related to a selected career interest.
- The act establishes a new state system for **transitional math instruction** for students to complete during their senior year of high school which, after successful completion, ensures placement place into credit-bearing math courses at any Illinois community college and participating universities.

The Competency Based Education (CBE) pilot program allows schools to shift from an education model focused on traditional "seat time," to a CBE model that permits students "to progress as they demonstrate mastery of concepts" (ISBE, 2021a, p. 1). The PWR Act (110 ILCS 148/20) outlines the conditions for the pilot:

> ISBE shall establish and administer a competency-based, high school graduation requirements pilot program ... A school district participating in the pilot program may select which of the year and course graduation requirements set forth in Section 27-22 of the School Code the school district wishes to replace with a competency-based learning system…The pilot program shall include the following components and requirements:
>
> (1) The competency-based learning systems authorized through the pilot program shall include all of the following elements:
>
> (A) Students shall demonstrate mastery of all required competencies to earn credit.
>
> (B) Students must demonstrate mastery of Adaptive Competencies defined by the school district, in addition to academic competencies.
>
> (C) Students shall advance once they have demonstrated mastery, and students shall receive more
> time and personalized instruction to demonstrate mastery, if needed.
>
> (D) Students shall have the ability to attain advanced postsecondary education and career-related competencies beyond those needed for graduation.
>
> (E) Students must be assessed using multiple measures to determine mastery, usually requiring

application of knowledge.

(F) Students must be able to earn credit toward graduation requirements in ways other than traditional coursework, including learning opportunities outside the traditional classroom setting, such as Supervised Career Development Experiences.

(2) A school district participating in the pilot program shall demonstrate that the proposed competency-based learning system is a core strategy supporting the community's efforts to better prepare high school students for college, career, and life. The application must identify the community partners that will support the system's implementation.

(3) A school district participating in the pilot program must have a plan for educator administrator and educator professional development on the competency-based learning system and must demonstrate prior successful implementation of professional development systems for major district instructional initiatives.

(4) A school district participating in the pilot program that is replacing graduation requirements in the core academic areas of mathematics, English language arts, and science with a competency-based learning system shall demonstrate how the competencies can be mastered through Integrated Courses or career and technical education courses.

(5) A school district participating in the pilot program shall develop a plan for community engagement and communications.

(6) A school district participating in the pilot program shall develop a plan for assigning course grades based on mastery of competencies within the competency-based learning system.

(7) A school district participating in the pilot program shall establish a plan and system for collecting and assessing student progress on competency completion and attainment, including for learning opportunities outside of the traditional classroom setting.

(8) A school district participating in the pilot program shall establish a system for data collection and reporting and must provide ISBE with such reports and information as may be required for administration and evaluation of the program.

(9) A school district participating in the pilot program shall partner with a community college and a higher education institution other than a community college for consultation on the development and administration of its competency-based learning system. The plan shall address how high school graduates of a competency-based learning system will be able to provide information normally expected of postsecondary institutions for admission and financial aid.

(10) A school district participating in the pilot program shall have a plan for engaging feeder elementary schools with the participating high school or schools on the establishment and administration of the competency-based learning system.

There were 26 learning communities with over 100 schools/sites that had applied for the CBE waivers under the pilot program (see Table 1). After initially applying, some had elected not to implement by the time of this study. These data were provided by the ISBE at the beginning of the evaluation. The status of some sites may have changed since that time.

Table 1

Learning Communities Submitting Applications to Participate in the CBE Pilot

CBE Pilot Site	Schools	Application Year	Implementation year from the waiver form –

			Some elected not to implement
City of Chicago Public School District 299	Gwendolyn Brooks College Prep	2017	2018-19
	Southside Occupational High School		2018-19
	Lindblom Math & Science Academy		2018-19
	York Alternative High School		2018-19
	Benito Juarez Community Academy		2018-19
	Walter Payton College Preparatory High School		2018-19
East St. Louis School District 189	East St. Louis School High School	2017	2018-19
	Wyvetter Younge Alternative Center		
Huntley Community School District 158	Huntley High School	2017	2018-19
Kankakee School District 111	Kankakee High School	2017	2018-19
	Kankakee Junior High School		
Peoria District 150	Manual High School	2017	2018-20
	Peoria High School		2018-20
	Richwoods High School		2018-20
	Mark Bills Middle School		2018-20
	Woodruff Career and Technical Center Program		2018-20
	Knoxville Center for Student Success Program		2018-20
Proviso Township High School District 209	Proviso East High School	2017	2017-18
Rantoul Township High School District 193	Rantoul Township High School	2017	2018-19
Ridgewood High School District 234	Ridgewood Community High School	2017	2018-19
Round Lake Community Unit School District 116	Round Lake Senior High School	2017	2018-19
Williamsfield Community Unit School District 210	Williamsfield Elementary School	2017	2018-2020
	Williamsfield Middle School		
	Williamsfield High School		
Belvidere Community Unit School District 100	Belvidere High School	2018	2019-20
	Belvidere North High School		2019-20
	Belvidere Central Middle School		2019-20
	Belvidere South Middle School		2019-20
	Caledonia Elementary School		2019-20
	Lincoln Elementary School		2019-20
	Meehan Elementary School		2019-20
	Washington Academy		2019-20
	Perry Elementary School		2019-20
	Seth Whitman Elementary School		2019-20
City of Chicago Public School District 299	Back of the Yards College Prep	2018	2018-19
	Marie S. Curie Metro High School		2018-19
	Disney II Magnet HS		2018-19
	Northside College Preparatory High School		2018-19
	Phoenix Military Academy		2018-19
	Cambridge Lakes Charter School	2018	

Community School District 300, Algonquin	Dundee-Crown High School Hampshire High School Jacobs High School Oak Ridge School		Reported not implementing
Illinois Valley Central School District 321	Illinois Valley Central High School IVC Learning Center Chillicothe Elementary Center and Junior High Mossville Elementary and Junior High South Elementary School	2018	Reported not implementing
Maine Township High School District 207	Maine East High School Maine South High School Maine West High School	2018	2019-20 2019-20 2019-20
Mattoon Community Unit School District 2	Mattoon High School Mattoon Middle School Riddle Elementary Arland D. Williams, Jr. Elementary	2018	Reported not implementing
Paris Cooperative High School	Paris Cooperative High School Mayo Middle School Crestwood Junior High School	2018	Reported not implementing
Quincy Public Schools	Quincy Senior High School/QAVTC Thomas S. Baldwin Elementary School Lincoln-Douglas Elementary School Dr. Abby Fox Rooney Elementary School Sarah Atwater Denman Elementary School Colonel George J Iles Elementary School Quincy Junior High School	2018	2018-20
Urbana School District 116	Urbana High School	2018	Reported not implementing
Warren Community Unit School District 205	Warren Senior High School	2018	Reported not implementing
Abe Lincoln Collaborative	Athens Community Unit School District 213 Auburn Community Unit School District 10 Ball-Chatham Community School District 5 Edinburg Community School District 4 Greenview Community School District 200 New Berlin Community Unit School District 16 Pawnee Community Unit School District 11 Pleasant Plains Community Unit School District 8 PORTA Community Unit School District 202 Riverton Community Unit School District 14 Sangamon Valley Community Unit School District 9 Springfield District 186 Tri-City Community Unit School District 1 Williamsville Community Unit School District 15	2019	Reported not implementing
Champaign Collaborative (6)	Champaign Community Unit School District 4 Schools U4 - Centennial HS, Central HS, Novak Academy, Actions Alternative Heritage Community School District 8	2019	2020-21

	Mahomet-Seymour Community Unit District 3		
	Paxton-Buckley-Loda Community Unit School District 10		Reported not implementing
	St. Joseph-Ogden Community High School District 305		
	Tolono Community Unit School District 7		
Work Ready Program Collaborative (4)	LeRoy Community Unit School District 2	2019	Reported not implementing
	Olympia Community Unit School District 16 Schools D16- Olympia South Elementary, West Elementary, North Elementary, Olympia Middle and High School		2018-19
	Pontiac Township School District 90		Reported not implementing
	Tri-Valley Community Unit School District 3		Reported not implementing
Charleston CUSD 1	Just submitted waivers, approval pending.	2019	Reported not implementing
River Bend CUSD 2	Fulton High School River Bend Middle School Fulton Elementary School	2019	2019-20
I-KAN Collaborative	Manteno High School	2019	2020-21
	Manteno Middle School		2020-21
	Manteno Elementary School		2020-21
	Bradley Bourbonnais Comm HS District 307		Reported not implementing

B. CBE Background Literature Brief

Otherwise known as proficiency-based, mastery-based education, and by the late 1970s outcomes-based education, Competency-Based Education (CBE) has been around in K-12 education for decades (Evans, Graham, & Lefebvre, 2019; Evans, Landl, & Thompson, 2020; Guskey & Gates, 1986; Mitchell & Spady, 1978; Spady, 1977; Spady & Mitchell, 1977). The early phase of CBE reforms took place from the 1960s-1980s (Evans et al., 2020; Evans et al., 2019). Early CBE-style reformers embraced Bloom's (1968) model of learning for mastery. According to Bloom, "Our basic task is to determine what we mean by mastery of the subject and to search for the methods and materials which will enable the largest proportion of our students to attain such mastery... the problem of developing a strategy for mastery learning is one of determining how individual differences in learners can be related to the learning and teaching process" (p.1). Bloom cautioned against problems associated with traditional letter-grading such as rigid adherence to the normal distribution curve (p. 2). According to Bloom, "to promote mastery learning, five variables must be dealt with effectively: (1) aptitude for kinds of learning, viewed as the amount of time required by the learner to attain mastery of the task; (2) quality of instruction, viewed in terms of its approaching the optimum for a given learner; (3) ability to understand instruction, i.e., to understand the nature of the task and the procedures to follow; (4) perseverance, the amount of time one is willing to spend in learning; and (5) time allowed for learning, the key to mastery" (pp. 3-7). Bloom noted several strategies for mastery learning to "find some way of dealing with individual differences in learners through some means of relating the instruction to the needs and characteristics of the learners" such as "a good tutor for each

student" and more pragmatically, "Permitting students to go at their own pace, guiding students with respect to courses they should or should not take, and providing different tracks or streams for different groups of learners" (p. 7). According to Evans et al. (2019, p. 301), the first phase of reform "eventually faded from popularity for many reasons, including: lack of conceptual clarity (Spady, 1977), piecemeal implementation that limited the effectiveness of the reforms (Guskey & Gates, 1986), and the shifting emphasis to standards-based reform and test-based accountability."

The second wave of CBE reform has taken place over the last two decades or so (Evans et al., 2020). Still hoping to achieve a common understanding (Evans et al., 2019; Lopez, Patrick, & Sturgis, 2017), a group of practitioners and policy makers worked to create a five-part working definition of high-quality CBE at the National Summit on K-12 Competency-Based Education in 2011 (Evans et al., 2019; Evans et al., 2020; Sturgis, Patrick, & Pittenger, 2011). Two additional elements were added after the second National Summit on K-12 Competency-Based Education in 2017 (Evans et al., 2020; Levine & Patrick, 2019). From Evans et al. (2020, p. 3), the seven elements of this working definition are:

1. Students are empowered daily to make important decisions about their learning experiences, how they will create and apply knowledge, and how they will demonstrate their learning.
2. Assessment is a meaningful, positive, and empowering learning experience for students that yields timely, relevant, and actionable evidence.
3. Students receive timely, differentiated support based on their individual learning needs.
4. Students progress based on evidence of mastery, not seat time.
5. Students learn actively using different pathways and varied pacing.
6. Strategies to ensure equity for all students are embedded in the culture, structure, and pedagogy of schools and education systems.
7. Rigorous, common expectations for learning (knowledge, skills, and dispositions) are explicit, transparent, measurable, and transferable.

Some examples of the second phase reforms include several states shifting away from traditional seat time definitions for high school graduation requirements and incorporating demonstration of mastery to high school graduation requirements (Evans et al., 2020), the addition of concepts such as student-centered learning, personalized learning, and deeper learning (Bill & Melinda Gates Foundation, 2014; Evans et al., 2019, Evans et al. 2020; Pane, Steiner, Baird, & Hamilton, 2015; Reif, Shultz, & Ellis, 2015; Zeiser, Taylor, Rickles, Garet, & Segeritz, 2014), as well as assessment reforms, such as performance-based assessment and portfolios (Evans et al., 2020).

Competency-Based Education: Facilitators and Barriers to K-12 CBE Implementation

In their systematic literature review of CBE, Evans et al. (2020, pp. 3) reported the seven elements of the CBE working definition. Working with these main elements, Evans et al. (2020, pp. 13-16) identified an extensive list of "facilitators" and "barriers" to implementation of K-12 CBE based on 25 reviewed studies. We have provided these in Appendix A to our report. Using a quantitative analysis technique known as pattern matching, we made use of these facilitators and barriers to help inform our interpretation of the facilitators and barriers identified by program stakeholders in our interviews and surveys. We looked for similarities and differences between the experiences of stakeholders of the Illinois CBE pilot sites and those themes identified by

Evans et al. in their extensive review of the CBE literature.

Limited research findings for academic and nonacademic outcomes related to CBE

Also, in their literature review of CBE, Evans et al. (2020) found that few studies have focused on the outcomes of CBE for K-12 students. According the authors, "The lack of research focused on student outcomes is likely due to the nascence of the reform and the need to better understand the factors that influence fidelity of implementation. In fact, administrators have cautioned against conducting research on student outcomes for districts/schools in the early phases of CBE implementation because significant time is required to ensure CBE practices are implemented to their full potential and collecting data on student outcomes too early could produce misleading results (Pane et al., 2017; Scheopner Torres et al., 2015)" (p. 17).

The authors found 12 studies making some statement about outcomes of CBE for K-12 students. The authors classified these as related to impact on (a) student academic achievement and progress; (b) student intrinsic motivation and engagement; and (c) other outcomes perceived as facilitators or barriers to student learning. They measured the strength of evidence as ranging from 1-3; 1) evidence provided is mainly anecdotal or descriptive with limited generalizability, 2) evidence suggests a relationship exists, but the design is correlational only, and 3) research design is experimental or quasi-experimental so "evidence suggests a causal relationship and/or supports claims of generalization due to experimental or quasi-experimental research design with matched treatment and control groups." Based on their ratings, nearly all of the studies were at the lowest level of design, two at the second level, and none at the highest level. Findings related to both "academic achievement and progress" and "intrinsic motivation and engagement" were mixed. Four studies examined "other student outcomes" and found "In general, changes in attendance and student learning capacities were reported as positively impacted by CBE, but students' perceived sentiment toward some CBE practices was sometimes negative (e.g., assessment policies, teaching, and grading practices)" (p. 19). They report similar findings when examining studies focused on identifying specific aspect(s) of CBE implementation that might be related to student outcomes stating "Overall, these studies provide little definitive information about the relationship between CBE implementation and student outcomes" (p. 20). In our evaluation, we have provided both descriptive and a quasi-experimental approaches to assess possible CBE impacts on high school completion and postsecondary entry.

II. Implementation Effectiveness of the Pilot Sites

A. ISBE Charge and Research Questions

An implementation evaluation, also known as process evaluation, focuses on whether a program or intervention is being implemented as envisioned and is resulting in the desired outputs for the program. During such an evaluation, researchers attempt to gather data from program stakeholders to determine whether the program is being implemented in the fashion those involved intended. It asks questions such as – what aspects of the program has been implemented to this point, who has the program served and where, what has worked the way the stakeholders intended, what barriers have they encountered, what successful outputs and outcomes have they achieved, and what are the strengths and weaknesses they have identified to this point? This review is intended to be reflective and to help to provide feedback to strengthen the success of

the program.

Reflecting that intent, for this implementation evaluation, State Board of Education contact requested that we address several research questions:

- To what extent does the CBE Pilot site programming impact students, student achievement, families, and educators? (This is also addressed in section III with the outcomes evaluation)
- To what extent is competency-based education provided in participating Illinois CBE Pilot sites (e.g., number of students participating, geographic distribution of sites, type of CBE programs implemented)?
- What is the annualized impact of the CBE programming on objective outcome measures and practices, innovation, and increased student performance following students for at least one year post-graduation or departure from high school?
- What are the characteristics of CBE Pilot sites?
- How well do the CBE Pilot programs implement clear systematic communication plans for reporting milestones and accomplishments to local boards of education and stakeholder groups?
- How do Illinois CBE Pilot program scope, scale, structure, and implementation compare to other States with competency-based education programming in the United States?
- What structural or systemic issues do K-12 Districts in Illinois face that hinder the implementation of best competency-based education practices and innovation?
- What structural reforms need to be undertaken in order to optimize competency-based education program and implementation performance?
- What accountability structures exist for CBE Pilot sites?

B. Methods and Data Collection

For this portion of the evaluation, we gathered and analyzed several sources of data to answer the research questions. First, we surveyed CBE program stakeholders from the pilot sites and analyzed the survey data. Second, we conducted a series of interviews with program stakeholders. Third we conducted a descriptive analysis of the student and school data for CBE participants.

C. Results

1. Survey Results

The purpose of the survey was to gather data about what stakeholder perceptions were about the implementation of the program and to gather data on perceived strengths and weaknesses of implementation to this point. The surveys were distributed to all stakeholders with the help of ISBE staff and school contacts. Of those 115 schools, 84 have an “Implementation Year” on an approved waiver form with ISBE, we did not send the surveys to the 31 schools listed as “Not Implementing.” We received survey results from 16 primary contacts and 357 total stakeholders.

The data are Likert-scale style data ranging from 1-5. Survey respondents were asked to reply to the questions by rating the strength of their answer from 1-strongly disagree to 5 strongly agree.

We reported the raw results for each question with mean scores. For the analysis we sub-divided the stakeholders into three additional sub-categories for comparison; teachers, students, and parents. Given the differences in support for the CBE pilot sites, we compared the results for the different stakeholder groups. As with all surveys, these replies reflect the attitudes of respondents who choose to reply, so results should be interpreted with caution.

Broadly, the survey addressed two substantive areas related to competency-based education:

1) Implementation effectiveness of CBE pilot sites
2) The characteristics of the CBE pilot sites

We identified three research questions related to this evaluation that assisted in the development of the survey questions used in this evaluation.

RQ1: To what extent does the CBE Pilot site programming impact students, student achievement, families, and educators?

RQ2: To what extent is competency-based education provided in participating Illinois CBE Pilot sites (e.g., number of students participating, geographic distribution of sites, types of CBE programs implemented)?

RQ3: What structural reforms need to be undertaken in order to optimize competency-based education program and implementation performance?

Overall, the parents and teachers tended to rate perceived benefits of CBE much lower than students and designated school and district CBE contacts. However, this was in part mitigated by the responses about strength of implementation There were significant correlations between answers to whether sites had incorporated CBE strategies and perceptions of student success. There were also significant correlations between answers to whether the school had provided opportunities for faculty to train in CBE and perceptions of student success. The correlations will be discussed in greater detail in the next section.

Survey Questions 7C, 7A, 7E, and 7F directly address RQ1. Survey Questions 2A, 3C, 4D, and 4G directly address RQ2. Survey Questions 2B, 2C, 4B, and 4A directly address RQ3. We have also provided the full list of responses to the survey questions in Appendices B (for the primary CBE administrator respondents) and C (all stakeholder respondents).

Table 2

Descriptive Statistics for Select CBE Survey Stakeholder Response Data

	N	Min	Max	Mean	SD
7A Increased student engagement	335	1	5	2.33	2.336
7C Experienced improved student performance	294	1	5	2.22	1.275
7E Experienced higher rates of postsecondary	260	1	5	2.27	1.204
7F Increased college and career	294	1	5	2.29	1.338
2A Incorporated CBE strategies	342	1	5	3.58	1.125
2B Identified clear goals	347	1	5	2.99	1.347
2C Identified strategies for supporting	348	1	1	2.86	1.335
3C Opportunities for faculty	337	1	1	3.25	1.391
4A Modified teacher evaluation system	288	1	5	2.53	1.232
4B Identified common proficiencies	336	1	5	3.32	1.291
4C Identified Cross curricular	332	1	5	2.70	1.256

4G Defined Benchmarks	329	1	5	2.81	1.280

Table 2 provides a description of the population of CBE stakeholders surveyed. 357 stakeholders responded to the survey. Not all respondents answered every question in the survey. The mean is indicated for each of the 12 select survey questions.

Table 3
Descriptive Statistics for Select CBE Survey Primary Contact Response Data

	N	Min	Max	Mean	SD
7A Increased student engagement	16	1	5	3.56	1.365
7C Experienced improved student performance	16	1	5	2.94	1.063
7E Experienced higher rates of postsecondary	16	2	5	3.06	.574
7F Increased college and career	16	2	5	3.50	.816
2A Incorporated CBE strategies	16	2	5	4.38	.885
2B Identified clear goals	16	2	5	4.13	.957
2C Identified strategies for supporting	16	2	5	4.06	.929
3C Opportunities for faculty	16	3	5	4.31	.704
4A Modified teacher evaluation system	16	1	4	1.94	.929
4B Identified common proficiencies	16	2	5	4.06	.998
4C Identified Cross curricular	16	1	5	3.32	1.302
4G Defined Benchmarks	16	1	5	3.38	1.147

Table 3 offers a description of the population of CBE primary contacts surveyed. 16 primary contacts responded to the survey and all 16 primary contacts answered each of the 12 questions. When comparing the mean values of Table 2 with Table 3 the mean values were significantly higher in Table 3 with the exception of question 4A which addressed whether the school/site had modified the teacher evaluation system to reflect CBE.

Tables 4, 5, 6, and 7 address the research question to what extent does the CBE Pilot site programming impact students, student achievement, families, and educators?

Table 4
Our school has experienced improved student performance

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	3	18.8	8	50.0	5	31.3	16
Stakeholders	50	14.0	68	19.0	176	49.5	357
Teachers	24	12.5	30	15.7	103	54.0	191
Parents	5	7.8	5	7.8	45	70.3	64
Students	10	45.4	7	31.8	2	9.1	22

Note. Survey Question 7C

Table 4 specifically gauged the perception among primary implementers and stakeholders related to whether their school/site has experienced improved student performance. Among primary implementers 18.8 percent supported that contention with 50 percent being neutral related to the survey question. Among stakeholders as an overall grouping only 14 percent supported the

contention. Among the Parent sub-stakeholder group 70 percent did not perceive that CBE improved student performance.

Table 5
Our school has experienced increased student engagement

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	9	56.3	4	25.0	3	18.8	16
Stakeholders	78	21.9	74	20.7	183	51.3	357
Teachers	36	18.8	39	20.4	108	56.5	191
Parents	6	9.4	6	9.4	50	78.2	64
Students	11	50.0	5	22.7	3	13.6	22

Note. Survey Question 7A

Table 5 specifically evaluated the perception among primary implementers and stakeholders related to whether their school/site has experienced increased student engagement. 56.3 percent of primary stakeholders perceived that CBE increased student engagement while 21.9 percent of stakeholders perceived an increase in student engagement.

Table 6
Our school has experienced higher rates of post-secondary enrollment

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	3	18.8	11	68.8	2	12.5	16
Stakeholders	38	10.6	80	22.4	142	39.8	357
Teachers	18	9.4	34	17.8	83	43.4	191
Parents	4	6.3	9	14.1	36	56.3	64
Students	8	36.4	8	36.4	1	4.5	22

Note. Survey Question 7E

Table 6 measured the perception among primary implementers and stakeholders related to whether their school/site has experienced higher rates of post-secondary enrollment. 68 percent of primary stakeholders where neutral in their perception while 56.3 percent of Parents who responded did not perceive a higher rate of post-secondary enrollment.

Table 7
Our school has experienced increased college and career readiness

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	7	43.8	8	50.0	1	6.3	16
Stakeholders	65	18.2	62	17.4	167	46.8	357
Teachers	32	16.7	27	14.1	100	52.3	191
Parents	8	12.5	5	7.8	42	64.1	64
Students	9	40.9	7	31.8	1	4.5	22

Note. Survey Question 7F

Table 7 gauged the perception among primary implementers and stakeholders related to whether their school/site has experienced increased college and career readiness. 43.8 percent of primary contact respondents reported support of increased college and career readiness with an additional 50 percent having a neutral perception. 40.9 percent of students perceived an increase in college and career readiness while 52.3 percent of Teachers and 64.1 percent of Parents perceived no

increase in college and career readiness.

Tables 8, 9, 10, and 11 address the research question to what extent is competency-based education provided in participating Illinois CBE Pilot sites (e.g., number of students participating, geographic distribution of sites, type of CBE programs implemented)?

Table 8
We have incorporated competency-based education strategies

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	14	87.6	1	6.3	1	6.3	16
Stakeholders	195	54.6	91	25.5	56	15.7	357
Teachers	116	60.8	43	22.5	25	13.0	191
Parents	19	29.7	22	34.4	21	32.8	64
Students	12	54.6	7	31.8	1	4.5	22

Note. Survey Question 2A

Table 8 addressed the perception among primary implementers and stakeholders related to whether their school/site has incorporated competency-based education strategies. 87.3 percent of Primary contacts perceived that their school/site had incorporated CBE strategies. 54.6 percent of Stakeholders, 60.8 percent of Teachers, and 54.6 percent of students reported that CBE strategies had been incorporated.

Table 9
Our school/site has provided opportunities for faculty to collaborate around work related to CBE

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	7	43.8	2	12.5	7	43.8	16
Stakeholders	163	45.7	77	21.6	97	27.2	356
Teachers	98	51.3	45	23.6	45	23.6	190
Parents	10	15.7	7	10.9	36	56.2	64
Students	14	63.7	5	22.7	2	9.0	22

Note. Survey Question 3C

Table 9 specifically gauged the perception among primary implementers and stakeholders related to whether their school/site has provided opportunities for faculty to collaborate around work-related to CBE. 51.3 percent of Teachers and 63.7 percent of students perceived that their school/site had provided opportunities for faculty collaboration around work related to CBE.

Table 10
Our school/site has identified/developed common, cross-curricular proficiencies/competencies for core skills

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	7	43.8	6	37.5	4	18.8	16
Stakeholders	103	28.9	91	25.5	140	39.2	357
Teachers	49	25.6	56	29.3	80	41.8	191
Parents	12	18.8	12	18.8	32	50.0	64
Students	13	59.1	5	22.7	2	9.0	22

Note. Survey Question 4D

Table 10 appraised the perception among primary implementers and stakeholders related to whether their school/site had identified or developed common, cross-curricular proficiencies or competencies for core skills. 43.8 percent of Primary providers supported perceived that their school/site had identified or developed common cross-curricular proficiencies or competencies related to core skills while only 18.8 percent of Primary contacts did not. 41.8 percent of Teachers and 50 percent of Parents did not perceive that their school or site had identified or developed common, cross-curricular proficiencies or competencies.

Table 11
Our school has defined benchmarks of proficiency at key intellectual development stages

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	7	43.8	6	37.5	3	18.8	16
Stakeholders	106	29.7	85	23.8	138	38.8	356
Teachers	44	28.3	48	25.1	76	39.8	191
Parents	11	17.2	8	12.5	40	62.5	64
Students	13	59.1	5	22.7	2	9.0	22

Note. Survey Question 4G

Table 11 gauged the perception among primary implementers and stakeholders related to whether their school/site has defined benchmarks of proficiency at key intellectual development stages. 43.8 percent of Primary contacts supported perceived that their school or site had while 62.5 percent of Parents did not perceive that their school or site had defined benchmarks of proficiency at key intellectual development stages.

Tables 12, 13, 14, and 15 address the research question to what structural reforms need to be undertaken in order to optimize competency-based education program and implementation performance?

Table 12
Our school/site has identified clear goals/outcomes for implementing CBE

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	12	75.0	3	18.8	1	6.3	16
Stakeholders	134	37.5	88	24.6	125	35.0	357
Teachers	69	36.1	47	24.6	71	37.2	191
Parents	16	25.0	11	17.2	36	56.3	64
Students	11	50.0	8	36.4	0	0.0	22

Note. Survey Question 2B

Table 12 judged the perception among primary implementers and stakeholders related to whether their school/site has identified clear goals and outcomes for implementing competency-based education. 75 percent of Primary contacts and 50 percent of Students perceived that their school or site had identified clear goals and outcomes while 56.3 percent of Parents did not perceive that their school or site had identified clear goals and outcomes.

Table 13
Our school/site has identified strategies for supporting the changes needed to implement CBE

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	

Primary	12	75.0	3	18.8	1	6.3	16
Stakeholders	119	33.3	98	27.5	131	36.7	357
Teachers	59	30.9	59	30.9	71	37.2	191
Parents	11	17.2	12	18.8	40	62.5	64
Students	12	54.5	6	27.3	1	4.5	22

Note. Survey Question 2C

Table 13 weighed the perception among primary implementers and stakeholders related to whether their school/site has identified strategies for supporting the changes needed to implement competency-based education. Similar to Table 12, 75 percent of Primary contacts reported identified strategies for supporting changes needed to implement competency-based education with 30.9 percent of Teachers sharing that same perception. Among all Stakeholder groups, 33.3 percent identified strategies at their school or site for supporting the changes needed to implement competency-based education.

Table 14

Our school/site has modified the teacher evaluation system to reflect CBE

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	1	6.3	3	18.8	12	75.0	16
Stakeholders	66	18.5	71	19.9	151	42.3	357
Teachers	34	17.8	40	20.9	94	49.2	191
Parents	10	15.6	5	7.8	19	29.7	64
Students	14	63.7	5	22.7	2	9.0	22

Note. Survey Question 4A

Table 14 rated the perception among primary implementers and stakeholders related to whether their school/site has modified the teacher evaluation system to reflect competency-based education. 75 percent of Primary contacts and 49.2 percent of Teachers did not perceive that the teacher evaluation system had been modified to reflect competency-based education.

Table 15

Our school/site has identified/developed common proficiencies/competencies across the same courses/grade levels which may be taught by different teachers.

Source	Support		Neutral		Do Not Support		X
	n	%	n	%	n	%	
Primary	11	68.8	4	25.0	1	6.3	16
Stakeholders	164	46.0	86	24.1	86	24.1	357
Teachers	103	53.9	44	23.0	41	21.6	191
Parents	11	17.2	15	23.4	30	46.9	64
Students	11	50.0	7	31.8	1	4.5	22

Note. Survey Question 4B

Table 15 reflected the perception among primary implementers and stakeholders related to whether their school/site has identified or developed common proficiencies or competencies across the same courses or grade levels which may be taught by different teachers. Nearly 69 percent of Primary contacts perceived that this had occurred at their school or site along with nearly 54 percent of Teachers and 50 percent of Students.

Correlation Results

We also conducted a correlation analysis using Spearman's Rho for all of the survey questions. Correlation describes the strength of association between two variables, in this case the results of two survey questions. If two phenomena are strongly correlated, we would be more likely to see them occur together. These scores range from 0 to 1 and can be either positively or negatively correlated. There were some thought-provoking correlations in this analysis. For example, stronger support among staff and the community for implementing CBE is associated with stronger reported implementation success across a number of indicators (see Table 16), as well as stronger perceived student outcomes (see Table 17). This observation makes sense. The stronger the support for CBE, the more likely we would see success. Furthermore, this underscores the need for stronger communication with all stakeholders regarding CBE and its implementation. There were even stronger correlations between the responses about success of implementation and perceptions of student success, when paired with responses to questions about whether a site had clear goals and strategies, and opportunities for faculty collaborate. These observations also offer areas for further inquiry.

Table 16
Select survey questions correlations

	Q1E There is broad support among staff for implementing CBE practices	Q1F There is community support for change to CBE	Q2A We have incorporated CBE strategies into our site and community vision and goals	Q2B Our site has identified clear goals/ outcomes for implementing CBE	Q2C Our site has identified strategies for supporting the changes needed to implement CBE	Q3C Our site has provided opportunities for faculty to collaborate around work related to CBE
Qvii. Which stage of implementation do you think best describes your site?	-.129*	-0.101	0.018	-.122*	-.137*	-.163**
Q1D:Our community supports the need for change	.377**	.552**	.151**	.267**	.281**	.147**
Q1E There is broad support among staff for implementing CBE practices	1.000	.700**	.374**	.565**	.668**	.554**
Q1F There is community support for change to CBE	.700**	1.000	.248**	.490**	.537**	.376**
Q1G At our site, there are high aspirations for postsecondary learning	.464**	.461**	.388**	.460**	.467**	.461**
Q2A We have incorporated CBE strategies into our site and community vision and goals	.374**	.248**	1.000	.627**	.571**	.517**
Q2B Our site has identified clear goals/outcomes for implementing CBE	.565**	.490**	.627**	1.000	.869**	.645**
Q2C Our site has identified strategies for supporting the changes needed to implement CBE	.668**	.537**	.571**	.869**	1.000	.715**
Q3A Our site has developed short- and long-range professional development plans aligned with CBE implementation	.651**	.488**	.507**	.715**	.790**	.773**
Q3B Our site has engaged professional staff in research	.629**	.525**	.477**	.680**	.747**	.767**

and data analysis relevant to CBE implementation						
Q3C Our site has identified strategies for supporting the changes needed to implement CBE	.554**	.376**	.517**	.645**	.715**	1.000
Q4D Our site has identified/developed common, cross-curricular proficiencies/competencies for core skills	.495**	.452**	.476**	.659**	.633**	.607**
Q4F Our school/site has identified/developed a common language for a taxonomy of learning	.534**	.469**	.521**	.679**	.685**	.667**
Q4G Our school/site has defined benchmarks of proficiency at key intellectual development stages	.508**	.414**	.496**	.661**	.632**	.607**
Q4H Our school/site has created curriculum scope and sequence options aligned with proficiencies/competencies	.572**	.450**	.507**	.680**	.717**	.658**
Q4KOur school/site has adapted instructional practices based on research, professional learning standards and student performance	.637**	.511**	.468**	.661**	.730**	.690**
Q4L Our school/site has identified formative assessments that show student proficiency levels in standards	.535**	.430**	.471**	.626**	.629**	.635**
Q4M Our site has identified performance-based assessments that determine student proficiency levels in standards	.565**	.414**	.463**	.606**	.648**	.628**
Q4N Our site has developed student achievement reports that identify student proficiency levels or mastery towards competencies	.446**	.368**	.451**	.591**	.595**	.541**
Q5A Our site provides multiple pathways and opportunities for students to demonstrate proficiency of required competencies	.486**	.411**	.519**	.572**	.582**	.526**
Q5B Our site provides students opportunities for input and choices in the demonstration of their learning	.539**	.486**	.477**	.622**	.668**	.594**
Q5C Our site provides learning opportunities that extend beyond the school building	.426**	.405**	.365**	.496**	.515**	.457**
Q6A Our site has established accessible intervention systems available within the school day	.449**	.330**	.468**	.548**	.542**	.610**

Q6C Our site has established progression criteria and proficiencies/competencies that are published and clear to all school, parent, and community stakeholders	.536**	.455**	.408**	.632**	.647**	.602**
Q6D Our site has established a system of advancement that is based on student demonstration of proficiency or above on required standards	.456**	.414**	.459**	.609**	.603**	.574**
Q6E Our site has established criteria for graduation and/or certification based on student demonstration of proficiency on required standards	.431**	.362**	.478**	.601**	.564**	.470**
Q6G Our site has established options for remediation, as needed, to help students meet proficiencies/competencies in a timely manner	.496**	.427**	.435**	.555**	.539**	.534**
Q6H Our site has established options for acceleration to help students advance to the next level when they are ready	.546**	.545**	.371**	.537**	.561**	.483**
Q6I Our site has established a system for tracking student progress on specific learning goals	.435**	.371**	.457**	.605**	.612**	.531**
Q6J Our site has implemented a Learning Management System (LMS) that allows anytime access to learning targets and materials	.368**	.231**	.425**	.517**	.510**	.512**
Q6K Our site has implemented a technology system that is used to support standards--based practices	.493**	.370**	.485**	.595**	.608**	.558**

Note: *p≤.05; **p≤.01; ***p≤.001

Table 17

Select survey questions correlations regarding perceived student outcomes

Survey Questions	Q1E There is broad support among staff for implementing CBE practices	Q1F There is community support for change to CBE	Q2A We have incorporated CBE strategies into our site and community vision and goals	Q2B Our site has identified clear goals/ outcomes for implementing CBE	Q2C Our site has identified strategies for supporting the changes needed to implement CBE	Q3C Our site has provided opportunities for faculty to collaborate around work related to CBE
Q7A Our site has experienced increased student engagement	-.226**	.624**	.285**	.563**	.631**	.549**
Q7B Our site has experienced increased educator engagement	-.131*	.564**	.358**	.594**	.668**	.563**

Q7C Our site has experienced improved student performance on standardized assessments	-.226**	.641**	.251**	.568**	.620**	.541**
Q7D Our site has experienced higher levels of student postsecondary aspirations	-.228**	.676**	.293**	.628**	.671**	.581**
Q7E Our site has experienced higher rates of postsecondary enrollment	-.219**	.675**	.330**	.636**	.682**	.597**
Q7F Our site has experienced increased college and career readiness	-.227**	.653**	.269**	.569**	.637**	.555**
Q7G Our school/site has experienced greater community investment in education	-.222**	.688**	.292**	.599**	.666**	.547**

Note: *p≤.05; **p≤.01; ***p≤.001

2. Interview Results

In order to collect practitioner perspectives and opinions, the research team conducted interviews with school/site/district leaders engaged with CBE. The interviews lasted 45-60 minutes and were conducted via recorded Zoom. Participants were informed that they had the right to decline to answer any question or to end the interview at any time. Subjects were assured that their responses would remain confidential and they would not be identified by name in any reports using information obtained from the interviews. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

We focused on high schools and district-level administrators, which limited us to 27 schools/sites distributed across 13 CBE Learning Communities. We were aided by an additional interviewer, Mary Ann Pitcher, who has great familiarity with CBE programs. Interviews were conducted between January 31 and February 11, 2022 with 17 administrators who had direct involvement with CBE at their school/site/district. Interviewee's job titles include Assistant Principal (2), Principal (6), Assistant Superintendent (4), and other Coordinators/Directors (5).

A deductive coding approach was used to systematically categorize interview transcripts to identify themes and patterns. A list of codes was developed based on ISBE requirements and the elements of the CBE from Evans et al. (2020, pp. 3).

Table 18
CBE Codebook

Code #	Code Name/Description
1	Assessment is Meaningful, Positive, Empowering
2	CBE has Accountability Structures
3	CBE impacts educators

4	CBE impacts families
5	CBE impacts student achievement
6	CBE impacts students
7	Cultural Reforms
8	Different pathways for Active learning
9	Policy Reforms
10	Reforms Needed
11	Stakeholders are engaged in CBE
12	Structural Issues hinder Implementation
13	Structural Issues support Implementation
14	Student Learning Expectations are Explicit
15	Student Learning Expectations are Measurable
16	Student Learning Expectations are Rigorous
17	Student Learning Expectations are Transferable
18	Student Learning Expectations are Transparent
19	Student progress is based on Evidence of Mastery
20	Student Progress is NOT based on Seat Time
21	Support is based on Individual Learning Needs
22	Support is Differentiated
23	Support is Timely
24	System Reforms
25	Systemic Issues hinder Implementation
26	Systemic Issues support Implementation
27	Varied pacing for Active learning

An analysis of interview transcripts yielded several themes related to CBE implementation across the state. However, five codes in particular were most prominent.

Table 19

Interview Themes	**n**
1) CBE Impacts Educators	41
2) Systemic Issues Hinder Implementation	36
3) Systemic Issues Support Implementation	24
4) CBE Impacts Students	23
5) Structural Issues Support Implementation	19

Interview Transcript Quotation Analysis
Theme #1: CBE Impacts Educators

1. *[CBE is] a lot more engaging for teachers. They like [having] more freedom and choice.*
2. *Our teachers really like [the formative and summative assessments]. They've bought in and they are keeping it moving.*
3. *[Teachers] can take the standard and know exactly what to do and by default, if you address that standard, you also address this competency. It makes it more efficient and*

there's less work.

Theme #2: Systemic Issues Hinder Implementation

1. *[CBE] causes more confusion with transcripts, and that is a nightmare.*
2. *We notice our CBE students are the last ones to hear back on scholarships. Schools don't understand the transcripts.*
3. *I've got a handful of districts that feed into us, well one of them doesn't do anything with standards-based grading at all. So they're very traditional. Where I've got two of them that are doing standards-based grading and a third that's kind of on its way there well, you can have standards-based grading without competency, but you can't have competency without standards-based grading or at least a version of it. And so that creates quite the challenge when you're trying to organize a giant system to produce a competency-based model of education.*

Theme #3: Systemic Issues Support Implementation

1. *Our ag class students who take some of our ag classes, they can get science credit at the high school. So they're taking what used to be an elective, but it is also marking off a graduation requirement. Students who take the general graphic arts class can get computer credit, because so much of graphics now is all done on computers, so why not give the students credit?*
2. *We take [a new CBE class] to our curriculum committee and then the school board approves it. As long as we can show that it's a viable class and that it's beneficial to students, we know it's going to be approved.*
3. *I'm in a great place. I'm in a place where I'm lucky enough to be able to be doing this work with support from the Board and the Superintendent.*

Theme #4: CBE Impacts Students

1. *In terms of shifting the paradigm . . . you don't have to be rostered to a honors course to earn honors credit. We are a unit district, so from a very early age starting in second grade when they do gifted and talented testing, there's like this certain group of students that always have access to the higher classes and acceleration. So now let's say you're in English 9, and you work up to the level of an honors credit. At the end of that year, you get re-rostered to the honors English course, and you receive that honors credit on your transcript. It's really interesting because some students say . . . they don't necessarily want to be in that class, but they still want to be able to work to get the honors credit if that makes sense.*
2. *I think probably the most powerful and interesting insight that they shared consistently was that kids are no longer asking "how many points do I need to get to get my grade up?"*
3. *[CBE has] provided a more positive atmosphere for students. [six years ago] students may have felt like "I can't there's no way I can get out of this, and maybe I need to get a GED or something." Now they're seeing that there are other ways [they] can they can earn their high school diploma.*
4. *CBE to me is the answer to educational equity. It's okay to admit it is a problem, that doesn't mean you're a horrible educator, it doesn't mean you're a horrible person. There*

was a problem in our educational space with educational equity, especially to people of color - black people, Hispanics. All the other research I've done over the last 15 years, this is the best tool to address it. So what we need to do is create the right community networks.

Theme #5: Structural Issues Support Implementation

1. *We are wall-to-wall Competency-Based Education. We moved away from credits to CBE graduation requirements. It's a lot, but it is much, much needed in terms of equity and opportunity.*
2. *[If they get behind in credits] sometimes students feel like they can't dig themselves out, and I think part of what the high school is doing is allowing students a pathway to get out.*
3. *We have a Google form that . . . tracks [student] progress through our system in science in all the content areas. It tracks every single assignment score [and] it populates the scale and shows you what competency they hit. Every student has access to that through their own phone to their own sheet. It's amazing! [The data is] in real time and there's a space for the educator to log on with the student, walking through it . . . it's really amazing, very, very detailed. It took them about a year to do it. Not having the money was frustrating, but what we created was amazing.*

FACILITATORS AND BARRIERS

An inductive transcript analysis yielded several facilitators and barriers related to CBE implementation and delivery.

BARRIERS

1. FUNDING OF CBE. The lack of funds to support CBE implementation and expansion was mentioned 80 times in the interview transcripts. Even schools that received funding to support implementation felt their program could expand if additional funding was provided (see *Training and Coaches* in FACILITATORS, below).
    - *The budget is the number one [biggest obstacle to CBE implementation]*.

2. TEACHER BURNOUT. The added workload that CBE required of teachers and administrators is a concern.
    - *I'm trying to open the door a little bit, but again it's time and it's teacher burnout and it's stress and trying to figure out what all we want, where are you going to push? How are you and how hard you get to push? And that's difficult to really find that time right now.*
    - *Teacher capacity [is the second biggest obstacle to CBE]*.

3. COVID-19 PANDEMIC. Remote learning and COVD-19 was mentioned 103 times in interview transcripts. While it was often referred to as a barrier to CBE implementation, it was also pointed to as proof that CBE works (see *COVID-19 Pandemic* in FACILITATORS, below).
    - *The biggest detriment to our progress was COVID. COVID really derailed us. It did, I mean we have momentum we're on the verge of going out to the other, like*

we're going to go to the middle schools and all that … some already know where we're going to train the people in other schools. COVID hit, and that was it. Yeah it hurts, I mean my biggest source of anxiety was COVID has derailed a program that I put my blood, sweat and tears into it.

4. TRANSCRIPTION OF CBE CREDIT. Transcripts and the formal awarding of credit was identified as an issue, both within the school system and as part of matriculation to post-secondary institutions. Both credit transfer and scholarship awards were noted as specific concerns. The term appeared 24 times in the interview transcripts.
    - *It's difficult for colleges and universities to really understand the CBE transcript because it has so much information, it looks completely different. It looks like another language.*

FACILITATORS

1. USE OF WAIVERS. One of the advantages for participants in the CBE pilot program was the ability to request waivers or modifications to "the mandates of the School Code or of the administrative rules adopted by ISBE in order to support the implementation of the school district's proposed competency-based learning system" (Postsecondary and Workforce Readiness Act, 2016). Pilot sites could apply these waivers to "replace current graduation requirements with a competency-based learning system" (Illinois State Board of Education Illinois Competency-Based High School Graduation Requirements Pilot Project Frequently Asked Questions, 2018). A total of 328 waivers were approved for CBE Pilot sites. According to data from ISBE, the most commonly approved waivers were for 1) length of school term; 2) specific requirements for graduation; 3) daily pupil attendance calculations; 4) required instructional time for summer school; and 5) required high school courses. Waivers were viewed as a key component of CBE implementation. The term appeared 39 times in the interview transcripts.
    - *Waivers, to me, were the most important part of the process because everything that I just described would not have been possible if we didn't have the waivers. Particularly time and space waivers. You know the seat time is a huge, would be a huge barrier. I don't know how you could do it.*
2. COVID-19 PANDEMIC. Remote learning and COVD-19 was mentioned 103 times in interview transcripts. While it was often referred to as a barrier to CBE implementation (see *COVID-19 Pandemic* in BARRIERS, above), it was also pointed to as proof that CBE works.
    - *Then the pandemic happened, and I always say that the pandemic was our performance task right because we had everything in place and our, actually our work in CBE prior to the pandemic was very beneficial to us as a district because we already had things like learning anywhere anytime. We already had you know flexibility and time and space, so that wasn't something that was foreign to our students, our teachers, or our community. So that really helped us be able to adapt very quickly.*
3. TRAINING AND COACHES. Schools that were part of Cohort 1 were provided funds for training/coaching to support CBE implementation. This is seen as a facilitator to those that were given access to this service. Access to coaches, or lack thereof, was mentioned 35 times in the interview transcripts.

- *The biggest thing that I think, especially if the state can do anything for the schools that are in the Competency-Based Education pilot program, is to provide coaching or provide funding to get coaches. They provided the coaching a little bit before, we were lucky to get those five hours and it was very impactful, but if they can still offer some type of help, then I think that that means a lot more to us so that we can do that for our kids, and try and get it so that it is a little more updated and we can move it at a faster pace. It'd be great if we could you know.*

3. Descriptive Statistics

To begin to answer the evaluation questions about which students are being served, where, and by whom, we have provided a descriptive analysis of the CBE student data provided to us by the ISBE. Some of the school level data are publicly available, but the student level data had to be provided by the ISBE. This dataset included all students participating in CBE that were reported to ISBE by schools for the previous five academic years, AY2017-2021. Below we have provided a series of tables and graphics illustrating key features of the descriptive data provided to us for the evaluation. The aggregate data for all students taking Competency-Based Education as reported to ISBE by the schools for these years are represented in Table 20. The data are broken out by individual years for this period in Table 21.

Table 20

Aggregate Data for Students Reported as Taking Competency-Based Education at Pilot Sites for AY2017-2021 Compared to Statewide Public School Data for 2021

Variable	CBE Students		Fall 2021 Statewide Public School Data	
School year	N	%	N	%
2017	14,554			
2018	16,528			
2019	18,767			
2020	21,691			
2021	21,117		1,804,768	100%
District Size				
small	390	.4%		
medium	7041	7.6%		
large	85,228	92.0%		
School Type				
K-8	66,289	71.5%	1,205,892	66.8%
High School	26,234	28.3%	598,876	33.2%
Charter	134	.1%		
Race/Ethnicity				
African American	25,645	27.7%	306,482	17.0%
Hispanic/Latinx	17,242	18.6%	502,887	27.9%
Asian American	1842	2.0%	100,632	5.6%
Amer Indian or Alaska Native	234	0.2%	4563	0.3%
Native Hawaiian or Other Pacific Islander	89	0.1%	1912	0.1%
Two+ Races	7535	8.1%	72,140	4.0%
White	40,064	43.2%	864,884	47.9%
Free Reduced Lunch	51,126	55.2%	894931	48.3%
IEP	15,852	17.1%		

English Learner	7068	7.6%	239354	12.9%
Homeless	955	1.0%	31808	1.7%

* https://www.isbe.net/pages/fall-enrollment-counts.aspx

Table 21

Data for Students Taking Competency Based Education at the Pilot Sites by Year AY2017-2021

Variable	2017		2018		2019		2020		2021	
School year	N	%	N	%	N	%	N	%	N	%
	14,554		16,528		18,767		21,691		21,117	
District Size										
small	15	.1	5	.0	6	.0	363	1.7	1	.0
medium	381	2.6	2831	17.1	660	3.5	2582	11.9	587	2.8
large	14,158	97.3	13,694	82.9	18,101	96.5	18,746	86.4	20,529	97.2
School Type										
P-8	13,220	90.8	13,694	82.9	13,886	74.0	12,910	59.5	12,579	59.6
High School	1331	9.1	2831	17.1	4879	26.0	8655	39.9	8538	40.4
Charter Sch.	3	.0	3	.0	2	.0	126	.6	0	0
Race/Ethnicity										
African American	4094	28.1	4625	28.0	5181	27.6	5901	27.2	5844	27.7
Hispanic/ Latinx	2534	17.4	2909	17.6	3476	18.5	4196	19.3	4127	19.5
Asian American	244	1.7	286	1.7	338	1.8	475	2.2	499	2.4
Amer Indian orAlaska Native	38	.3	37	.2	52	.3	56	.3	51	.2
Native Hawaiian or Other Pacif Isl	15	.1	17	.1	15	.1	22	.1	20	.1
Two+ Races	1172	8.1	1368	8.3	1583	8.4	1735	8.0	1677	7.9
White	6455	44.4	7284	44.1	8122	43.3	9305	42.9	8898	42.1
Groups										
Free Reduced Lunch	8577	58.9	9476	57.3	10,447	55.7	11,768	54.3	10,858	51.4
IEP	2763	19.0	3082	18.6	3262	17.4	3462	16.0	3283	15.5
English Lang Learner	1112	7.6	1198	7.2	1382	7.4	1677	7.7	1699	8.0
Homeless	326	2.2	163	1.0	152	0.8	168	.8	146	0.7

Table 22

Comparison Data for Students Taking Competency Based Education at the Pilot Sites Year AY2017-2021 by K-8 vs High School: number and percentage

Variable	2017		2018		2019		2020		2021	
School year	K-8	HS	K-8	HS	K-8	HS	K-8	HS	K-8	HS
	13,220	1331	13,694	2831	13,866	4879	12,910	8655	12,579	8538
District Size										
small	13	2	4	1	6	0	243	120	1	
	.1%	.2%	0%	0%	0%		1.9%	1.4%	0%	
medium	210	171	184	355	135	525	1372	1210	32	555
	1.6%	12.8%	1.3%	12.5%	1.0%	10.8%	10.6%	14.0%	.3%	6.5%
large	12,997	1158	13,506	2475	13,745	4354	11,295	7325	12,546	7983
	98.3%	87.0%	98.6%	87.4%	99.0%	89.2%	87.5%	84.6%	99.7%	93.5%

Race/Ethnicity										
African American	3802	292	3980	645	3999	1182	3540	2323	3820	2024
	28.8%	21.9%	29.1%	22.8%	28.8%	24.2%	27.4%	26.8%	30.4%	23.7%
Hispanic/ Latinx	2249	282	2333	573	2303	1171	2445	1724	2073	2054
	17.0%	21.2%	17.0%	20.2%	16.6%	24.0%	18.9%	19.9%	16.5%	24.1%
Asian American	218	26	227	59	246	92	310	164	248	251
	1.6%	2.0%	1.7%	2.1%	1.8%	1.9%	2.4%	1.9%	2.0%	2.9%
Amer Indian orAlaska Native	34	4	31	6	43	9	30	26	36	15
	.3%	.3%	.2%	.2%	.3%	.2%	.2%	.3%	.3%	.2%
Native Hawaiian or Other Pacif Isl	12	3	11	6	9	6	10	12	12	8
	.1%	.2%	.1%	.2%	.1%	.1%	.1%	.1%	.1%	.1%
Two+ Races	1100	72	1214	154	1339	244	1046	684	1209	468
	8.3%	5.4%	8.9%	5.4%	9.6%	5.0%	8.1%	7.9%	9.6%	5.5%
White	5803	652	5897	1387	5947	2175	5529	3721	5181	3717
	43.9%	49.0%	43.1%	49.0%	42.8%	44.6%	42.8%	43.0%	41.2%	43.5%
Groups										
	7930	644	8093	1380	7999	2446	6901	4797	7099	3759
Free Reduced Lunch	60.0%	48.4%	59.1%	48.7%	57.6%	50.1%	53.5%	55.4%	56.4%	44.0%
IEP	2589	174	2722	360	2689	573	2008	1436	2236	1047
	19.6%	13.1%	19.9%	12.7%	19.4%	11.7%	15.6%	16.6%	17.8%	12.3%
English Lang Learner	1054	57	1085	112	1107	274	1025	645	1095	604
	8.0%	4.3%	7.9%	4.0%	8.0%	5.6%	7.9%	7.5%	8.7%	7.1%
Homeless	311	15	147	16	108	44	104	63	74	72
	2.4%	1.1%	1.1%	.6%	.8%	.9%	.8%	.7%	.6%	.8%

III. Preliminary Outcomes Evaluation

A. Study Design

1. Research Questions

For the outcome evaluation, the ISBE asked for the evaluation to include the following elements:

- As part of the evaluation, the Vendor shall examine the existing CBE Pilot sites and compile evidence of effectiveness based on student evaluation, input from business and industry partners, educators, local boards of education, and families in addition to specific databases that contain longitudinal trend data at the school and district level.
- The evaluation must include a list of student-earned certifications/credentials and numbers associated with each for the past five years (fiscal years 2016-20) at all schools, including the Area Career Centers.

The first question from the implementation evaluation also overlaps with these questions, so we have answered it here as well.

- To what extent does the CBE Pilot site programming impact students, student achievement, families, and educators?

In addition, for this analysis, we asked the following outcomes focused research questions:

1) Controlling for several student academic, demographic, and environmental covariates, is participation in CBE associated with improved student high school completion?
2) Controlling for several student academic, demographic, and environmental covariates, is participation in CBE associated with improved student postsecondary enrollment outcomes?

As we have noted previously, CBE implementation is at an early stage, so the evaluation of outcomes should be considered preliminary. Outcome evaluation should continue over a longer time frame to more accurately assess the relative merits of CBE implementation.

2. Methods and Data Collection

For this portion of the evaluation, we conducted several analyses to attempt to determine the relationship between CBE participation and the outcomes. First, we analyzed self-reported survey data from participants and stakeholders at the CBE pilot sites. Second, we conducted a simple analysis comparing school level outcome scores of those who participated in CBE compared to statewide averages for non-participating schools. Third, we employed regression analysis using school level data to examine the strength of association between school participation in CBE and student outcomes while controlling for the potential impact of several student and school factors. Fourth in an attempt to better control for the possible impact of other school levels covariates on these outcomes, we conducted a matched pair design. Matched pair design is a form of quasi-experimental design in which two comparison groups are matched along important characteristics in order to create "like" groups to control for the possible effect of covariates (Blankenberger, Gehlhausen Anderson, & Lichtenberger, 2021; Gehlhausen Anderson & Blankenberger, 2020). This is an attempt to mimic experimental conditions by sorting participants into experimental and control groups with similar characteristics, except one has received the "treatment" (in this case CBE participation) and the other has not. We detail this method in the next section and include a full list of the control characteristics in the analysis section. Lastly, we repeated these analyses using student level data. We conducted a simple analysis with no covariates, a series of regressions, then finally a matched pair quasi-experimental design. Our data were gathered via survey of stakeholders from CBE sites, 2021 school data that are publicly available at the Illinois State Board of Education website on the Illinois Report Card Data Library, and student unit record level data requested by ISBE staff through the state longitudinal data system.

For the quasi-experimental portion of the evaluation, we employed a between-subjects design. This type of design is used to analyze the treatment effects of an educational intervention by comparing the outcomes of two different groups, those who participated in the treatment and those who did not (Blankenberger, Gehlhausen Anderson, & Lichtenberger, 2021; Gehlhausen Anderson & Blankenberger, 2020; Gravezetter & Forzano, 2009). To determine whether a program/treatment produced the desired outcome, in ideal circumstances, an evaluator would employ an experimental research strategy which randomly assigned participants to experimental and control groups. However, this is not possible in most evaluation settings for several reasons, e.g., individuals cannot be randomly assigned to treatment and control groups, because the program being evaluated has already ended or cannot be denied to individuals for ethical reasons, or there is no way to effectively insulate the experimental group from important factors

which could impact the relationship between the independent and dependent variables (Gravezetter & Forzano, 2009; Rossi, Lipsey, & Freeman, 2003; Sylvia & Sylvia, 2012). This is typically the case in education program evaluations because students are not in controlled experimental settings, they cannot be randomly assigned to control and treatment conditions, and they are impacted by a number of internal and external factors that may impact their performance (Blankenberger, Gehlhausen Anderson, & Lichtenberger, 2021; Perna & Thomas, 2006).

When experimental design conditions are not possible, it is important to effective evaluation to try to approximate the experimental condition by using quasi-experimental approaches to attempt to control for factors which could impact group outcomes (Blankenberger, Gehlhausen Anderson, & Lichtenberger, 2021). For this evaluation, we employed propensity score matching (PSM) to attempt to create similar groups of students – some who participated in CBE, and others who did not. Using PSM an evaluator can create matched pairs to better mimic the randomization process (Austin, 2011; Blankenberger, Gehlhausen Anderson, & Lichtenberger, 2021; Thoemmes, 2012; Thoemmes & Kim, 2011).

We employed the propensity score matching evaluation technique described in Blankenberger, Gehlhausen Anderson, and Lichtenberger (2021). We ran preliminary regressions to identify factors in the data that could impact student outcomes. Propensity scores are the predicted probabilities of student participation in a treatment group. To obtain the probability score, we ran a logistic regression model with membership in the CBE group as the dependent variable and the baseline attributes as the predictor variables (Austin, 2011). We included the relevant characteristics to generate the predicted probability, such as gender, race/ethnicity. We then matched the group members to the nearest hundredth (i.e., a caliper of .01) on these key factors that we included in the PSM. Once the matched groups are created, we employed standard chi-squares to compare the groups based on identified student outcomes.

Using PSM to generate matched groups can result in unbalanced groups, so we ran balancing diagnostics to compare the scores for the two groups on these key characteristics. We split the students into groups based on participation in the CBE and created output tables with the descriptive statistics. We then checked standardized differences between the two groups across each factor to determine which factors might be unbalanced. Although there is some disagreement on the cut off score for these differences in the literature, typically, 0.2 is considered acceptable, though 0.1 is more broadly accepted (Austin, 2009). Exceeding this would indicate the groups are unbalanced on that characteristic. Because of the potential for differential impacts for students of different race/ethnicity, we conducted matched pair analyses for these groups as well.

B. Data Analysis and Results

1. Survey analysis

The survey discussed in the implementation section also included data associated with student outcomes. These data represent self-reported impressions of success for the CBE participants across several outcomes. As noted in the implementation section, the survey results reflect the perceptions of those who chose to respond to the survey. Hence, the results should be considered with caution as these individuals self-select to reply, and their responses reflect their experiences.

Nonetheless, as those directly involved, they provide valuable firsthand data.

Related to perceptions of student outcomes, teachers and parents who replied felt that CBE participation was not associated with improvements in student success indicators, however the primary CBE administrators and students who replied disagreed. We posed questions related to student outcomes of general performance, engagement, entry into postsecondary and career and college readiness. The responses are presented above in Tables 4-7. About half of teachers and over two-thirds of parents reported that they did not believe CBE participation improved student performance, but only one-third of primary administrators felt the same, and just ten percent of students did. For student engagement, we see a similar split, but just one-fifth of primary administrators felt the same as parents and teachers. Nearly half of teachers and parents, reported that they did not believe that CBE participation improved student rates of postsecondary enrollment. However, the primary contacts and students who replied to this strongly disagreed with only about 10% indicating the same. Similarly, as reported in Table 7, nearly half of teachers and two-thirds of parents, reported that they did not believe that CBE participation improved student college readiness. Again, the primary contacts and students who replied strongly disagreed with this sentiment.

Revisiting the correlations in Table 17, we see that the stronger the support for CBE among staff and the community, the more likely responses were favorable to the student performance outcome questions. Similarly, we see stronger reported student outcomes where sites indicated they had clear goals for CBE implementation, strategies supporting the changes needed for CBE implementation, and opportunities for faculty to collaborate on implantation.

2. School level data analysis

We open this section with a preliminary analysis of the comparative outcomes for CBE pilot schools and non-participant schools. This is purely descriptive data meant to provide a very basic snapshot of outcomes data relative to schools that have pursued the waiver to participate in CBE pilot programs. We want to caution readers not to draw too many conclusions from this picture. None of this data can indicate any causal relationships. First, this initial level of analysis does not control for the potential impact of important factors that may differ between student participants in CBE and non-participants such as differences in the schools they attend, district differences, and demographic differences. For example, schools who chose to participate in the CBE pilot programs may differ in ways that may impact student performance such as student ability, faculty expertise, school funding levels, et al. Second, we will be providing school level data in this first section. Because this data is at the school level and not the individual student, we cannot make any judgements about the performance of any individual student within a school. Again, this data is merely presented to provide a preliminary view.

Initial School Level Outcome data without Covariates

We have provided comparative student outcome data for CBE and statewide students at the school level while including no-covariates. The data are from the publicly available Illinois Report Card Data Library for 2021 accessible on the Illinois State Board of Education website. The mean outcome scores (averages) are provided in Table 23 for both the CBE pilot high schools and non-participating high schools. Mean outcome data and standard deviations are provided for key outcomes high school graduation rate (both 4 and 5 year rates), percent of high

school graduates enrolled in postsecondary within 12 and 16 months of high school graduation, and the percent of those who entered community college who tested into a developmental/remedial Reading or Math course. Postsecondary entry could be in certificate, associate, or baccalaureate programs. As indicated in Table 23, none of the differences between the groups on any outcome were statistically significant. As the data show, the outcomes are fairly consistent with the CBE participating schools showing slightly higher mean scores in most categories. Only in percent remediation is the non-participant mean better than the CBE participants. Once again, though, these data do not take into account the many other factors which could impact student performance. Furthermore, this is school-level data so cannot represent the performance if individual students, except as a small part of the aggregate data.

Table 23
Overall High School Level Outcome Data Comparing CBE Participating Schools with Non-Participants

	N	4-year grad rate	Std. Dev.	5-year grad rate	Std. Dev.	% grads enrolled in Postsec.w/in 12 mos	Std. Dev	% grads enrolled in Postsec.w/in 16 mos	Std. Dev	% Com Coll Remed	Std Dev
Non-Participant High School	658	84.0	14.1	87.6	11.6	62.3	16.5	62.9	16.4	37.4	21.4
CBE participating High School	28	86.2	10.2	90.0	8.1	65.2	17.5	65.8	17.3	42.6	19.8

No differences were statistically significant

In Table 24 we have provided data comparing means on these indicators based on each school's number of years of CBE participation reported under the pilot. Here again no relationships were statistically significant, and the effect-sizes were all very small. Once more, we caution against drawing any conclusions from this snapshot, especially given such small numbers of schools, and the limited number of implementation years.

Table 24
Overall High School Level Outcome Data Comparing CBE Participating Schools by number of years of CBE participation with Non-Participants

	N	4-year grad rate	Std. Dev.	5-year grad rate	Std. Dev.	% grads enrolled in Postsec.w/in 12 mos	Std. Dev	% grads enrolled in Postsec.w/in 16 mos	Std. Dev	% Com Coll Remed	Std Dev
Non-Participant High School	658	84.0	14.1	87.6	11.6	62.3	16.5	62.9	16.4	37.4	21.4
1 year CBE participating High School	14	82.7	11.3	87.6	8.6	59.8	19.8	60.4	19.5	43.7	21.7
2 year CBE participating High School	11	89.3	8.7	95.4	7.8	73.4	13.6	74.1	13.5	45.5	18.4
3 year CBE participating High School	3	84.1	6.2	87.7	5.5	60.3	4.0	60.8	4.5	26.3	9.4

No differences were statistically significant

Analysis with Covariates

Logistic Regression of School Data

Utilizing the school dataset, we ran some preliminary OLS regressions with CBE participation as the independent variable, several covariates, and the various outcomes we employed in the comparisons as the dependent variables. We sought to determine if CBE participation was associated with these outcomes while controlling for the potential impact of other factors. By employing regression analysis, we are able to control for the effect of variables for which we have data. We have included several variables which could have impacted student outcomes, in addition to CBE participation including - school 2019 SAT Reading and Math scores (due to COVID, scores since then are incomplete) to provide an approximation of standardized school academic outcomes, the "EBF Capacity To Meet Expectations" score to reflect relative school funding levels, number of student enrollments to reflect school size, percent White to approximate the diversity of the student body in a single score, percentage low-income student enrollment to reflect relative family income level, student chronic truancy rate, average class size, school type, and district size.

The overall models were significant, not surprisingly given the number of key factors in the regression equations. The models account for about half of the variation in the dependent variable outcomes. However, school participation in CBE was not significantly associated with any outcomes. We again recommend caution in interpreting these results. Illinois has only allowed CBE implementation waivers for a few years, so any outcome analysis at this point would very likely be too early to tell if there were a demonstrable impact. In addition, again this is school level data not student level data, so any associations are for the schools and their outcomes, not for individual students within these schools.

Table 25. Regression results for CBE participation and several school covariates and HS Completion and Postsecondary entry outcomes

	4-year grad rate			5-year grad rate			% grads enrolled in Postsec.w/in 12 mos			% grads enrolled in Postsec.w/in 16 mos		
	B	SE	Stdz ß	B	SE	Stdz ß	B	SE	Exp(B)	B	SE	Exp(B)
CBE participation	2.59	2.09	.036	2.39	1.805	.040	.23	2.10	.00	.27	2.10	.00
District Size	-4.26	.85	-.22***	-2.84	.73	-.18***	-1.03	.86	-.05	-1.07	.86	-.05
School Type (charter?)	-2.30	1.77	-.047	1.65	1.53	.04	-.99	1.82	-.02	-1.17	1.82	-.02
SAT Reading	.041	.034	.13	.05	.03	.18	.10	.03	.27**	.09	.03	.24*
SAT Math	.09	.03	.35***	.07	.02	.30**	.13	.03	.41***	.14	.03	.44***
% EBF Capacity to Meet Expectations	-.02	.02	-.03	-.00	.00	-.00	-.01	.02	-.01	-.01	.02	-.01
# Student Enrollment	-.00	.00	-.04	-.00	.00	-.05	-.00	.00	-.05	-.00	.00	-.05
% Enrollment White	.01	.02	.02	.01	.02	.03	-.05	.02	-.11*	-.05	.02	-.11
% enrollment low income	-.08	.03	-.14*	-.06	.03	-.13*	-.09	.03	-.14*	-.08	.03	-.14*
Average Class Size	.55	.12	.21***	.50	.10	.23***	.55	.12	.18***	.54	.12	.18***
Adjusted R2 (change)	.445***			.395***			.589***			.587***		

Note: *p≤.05; **p≤.01; ***p≤.001; n=688 schools.

Matched School Analysis

As described in greater detail in the methods section, researchers can attempt to more closely mimic experimental random assignment to treatment and control groups by employing a matched pair design using Propensity Score Matching and exact or coarsened exact matching on important characteristics that are associated with participation in the "treatment" group (in this case CBE participation). This enables the researcher to try to control for known factors that may impact a participant's achievement of desired outcomes. Essentially, we try to create similar groups so that we are more likely to be comparing "like to like" as opposed to comparing dissimilar groups. We are employing school level data in this section, so we still have the problem that we cannot attribute school level outcomes to individuals. However, we were at least able to create "like" groups in order to control for the important school characteristics that we had included in the OLS regressions.

As discussed in the methods section, conducting a PSM may yield unbalanced groups – meaning that the groups will be dissimilar enough that they do not adequately mimic the experimental treatment/control groups. We conducted a standard PSM with the exception of matching exactly on District Size (small, medium or large). We did so given the significant relationship between district size and our outcomes of interest as revealed in the regressions. As nominal data, we needed to use exact matching in order to be certain that we had equivalent numbers of districts of the same size in the matched groups. When we first conducted the PSM (with district size exact match), the two groups were unbalanced on percent White students, and percent low-income students. Unbalanced groups can occur due to the random nature of the matching process, but it is especially common when a researcher only has a small number of possible matches (as in this case with just 28 CBE high schools with complete data available for the match). Knowing the importance of balancing on these characteristics we re-ran the match until we obtained balanced groups across all data points.

In Table 26 we have provided the results comparing the two group means on these indicators. Since we were able to match all 28 CBE High Schools (possible because of the much larger number of schools with which to match) the means for these are the same as in Table 23. Once again, none of the differences are significant, and all have very small effect sizes. Here again, we caution against drawing any conclusions from this preliminary data analysis. These are a very small number of schools, and they have only been implementing CBE practices for a few years. Additionally, this is school level data so no student level impacts should be derived from these results.

Table 26.
Matched Pair High School Design Comparing Outcomes for CBE Participating Schools and Non-Participants

	N	4-year grad rate	Std. Dev.	5-year grad rate	Std. Dev.	% grads enrolled in Postsec.w/in 12 mos	Std. Dev	% grads enrolled in Postsec.w/in 16 mos	Std. Dev	% Com Coll Remed	Std Dev
Non-Participant High School	28	84.5	13.2	87.1	11.0	64.8	14.0	65.5	13.9	45.7	24.1

CBE participating High School	28	86.2	10.2	90.0	8.1	65.2	17.5	65.8	17.3	42.6	19.8

No differences were statistically significant

We note that the gaps in the outcomes scores have narrowed between the two groups in the matched pair analysis, and the standard deviations for the non-participants are smaller than the total group of high schools. This is to be expected because the matching process creates similar groups based on their likelihood of participation in CBE. The scores for the mean percentage of high school graduates who enter college after high school has increased from 62.3 (unmatched non-participants) to 64.8 (matched) for 12 months and 62.9 to 65.5 respectively for 16 months. Nonetheless, the CBE and non-CBE school scores remain relatively equal. The only major change between the unmatched and matched pairs is in the percentage who tested into developmental/remedial community college courses. In the unmatched groups the remediation percentage mean was higher for CBE schools (42.6%) than for non-participants (37.4%), but this reverses after the match with matched non-participant schools at 45.7%. With such small numbers of schools in this analysis and only a few years into implementation, this could simply be due to random chance, but it is worth pursuing in future research. We discuss this at greater length in the Conclusion.

Balancing Tables and Descriptive Statistics for the Matched Groups

The balancing tables for the matched school groups indicate that the groups were balanced. The effect sizes for ACT and high school GPA were both under 0.2 so should be fine. All differences in effects size less than Cohen's *d* of 0.2 should be fine, although it's better if under 0.1.

Table 27.

Balancing Tables for Matched School CBE Participation Comparisons

PSM match			
	Mean or count		Difference effect size
Variables	control	CBE	
	N=28	N=28	
School SAT Reading 2019	486.98	487.15	-0.03
School SAT Math 2019	479.73	478.24	-0.02
% EBF to meet expectations	75.271	77.071	.09
District Size Coded	2.82	2.82	0
# School student enrollment	1357.14	1323.50	-.04
School % White	33.714	39.243	0.17
School % Enroll. Low-income	52.904	51.046	-.07
Student Chronic Truancy Rate	35.321	36.125	0.03
Avg Cass Size	21.871	21.461	-.09

3. Student level data analysis

We would like to open with a reminder about the preliminary nature of this outcome evaluation. The first application year for CBE pilot sites was 2017. Sites indicated their first year of

implementation in the application with the first cohort implementing in 2018-19 (AY19). Thus, this year, AY22, is the first in which implementation had begun for students for a full four-year cycle. Having said that, analyzing outcomes from the start of a program is useful both to monitor student trends and to establish a baseline for comparison as implementation continues.

Initial Unmatched Student Outcome data without Covariates

Table 28 indicates the comparative outcomes for CBE vs non-CBE students at the pilot sites. This initial analysis is a "non-experimental" with no attempt made to control for student differences that could impact these outcomes. It is purely descriptive and does not attempt to compare "like to like" students. CBE students performed better on high school completion for seniors in high school, but worse on postsecondary entry. These negative results are mitigated in part in the quasi-experimental, matched pair analysis in the next section.

Table 28.

Unmatched Comparisons: CBE vs non-CBE Outcomes for students at the pilot sites.

	N	HS Seniors who graduated	Transfers (excluded)	Cramer's V	Entered Postsecondary within 12 mos	Cramer's V
Unmatched students						
Not CBE	6024	88.5%	3.2%		55.7%	
CBE	589	94.6%***	1.2%	.056	51.1%*	.026
White unmatched students						
No CBE	2567	90.9%	2.1%		63.4%	
CBE	275	95.2%*	0	.052	59.7%*	.023
African American Students						
No CBE	830	79.4%	6.2%		38.9%	
CBE	114	91.5%**	4.3%	.091	37.6%*	.008
Hispanic-Latinx Students						
No CBE	1355	90.2%	3.2%		50.3%	
CBE	122	94.2%	1.4%	.040	43.2%	.040
2+ Races Students						
No CBE	225	87.6%	3.6%		55.1%	
CBE	33	100%	0	.056	57.6%	.017

* indicates statistically significant differences

Analysis with Covariates

Logistic Regression of Student-Level Data

Through regression analysis, we are able to control for the effect of variables for which we have data. We have included several variables which were likely to impact student outcomes, in addition to CBE participation. According to the results of binary logistic regressions (see Table 29), CBE participation is significantly associated with enrollment in postsecondary within 12 months [B= -.287, Exp(B) = .705, $p<.05$], but the relationship is negative. This represents the difference between participating in CBE (level 1), and not participating (level 0, the reference category). That is, holding all other variables in the equation constant, when shifting from "not CBE" to "CBE", the odds of enrolling in postsecondary decrease by 0.287. However, the relationship between CBE participation and high school completion is positively statistically significant [B= .651, Exp(B) = 1.917, $p<.05$]. Hence, holding all other variables in the equation

constant, moving from non-CBE to CBE increases the odds of a senior completing high school by .651.

Table 29.
Bivariate regression results for CBE participants at the pilot sites with covariates and Senior high school graduation and Postsecondary entry outcomes

	Senior HS graduation (n=6419 – transfers excluded)			% grads enrolled in Postsecondary.w/in 12 mos *(n=6622)*		
	B	SE	Exp(B)	B	SE	Exp(B)
CBE participation	.651	.225	1.917***	-.287	.099	.705*
District Size (small-reference)						
medium	-.669	.574	.512	-.031	.246	.969
large	-.923	.571	.397	-.199	.246	.820
% EBF Capacity to Meet Expectations	-.001	.003	.999	-.001	.002	.999
School SAT Reading	-.008	.008	.992	.002	.004	1.002
School SAT Math	.003	.006	1.003	.001	.003	1.001
% Enrollment White	-.004	.003	.996	-.003	.002	.997
% enrollment low income	-.010	.004	.990*	.003	.002	1.003
Race – (white – reference)						
African American	-.087	.133	.917	-.321	.082	.725***
Hispanic – Latinx	.201	.158	1.223	-.192	.079	.825*
Asian American	-.249	.344	.779	.215	.166	1.239
AIAN	18.66	10608	126580096	.339	.637	1.403
Haw or Pac Isl	18.01	13143	66468951	-.531	.808	.588
2+ races	-.177	.276	.838	-.275	.150	.760
Free Reduced Lunch	-.482	.116	.618***	-.724	.064	.485
IEP	-2.12	.107	.120***	-1.324	.094	.266
English Lang Learner	.212	.212	1.236	-.445	.138	.641
Courses						
# of AP	1.324	.169	3.76***	.596	.031	1.814
# of dual credit	.443	.111	1.56***	.393	.040	1.481
# of IB	13.94	126905	1132087	.284	.055	1.328
Nagelkerke R2 (change)	.334***			.308***		

Note: *p≤.05; **p≤.01; ***p≤.001; n=5767 students.

4. Matched Student Analysis

As with the school matched design, we employed a combination of Propensity Score Matching on key ratio measures and exact matching on key nominal variables to create matched pairs of students – a CBE participant with a "similar" non-participant. As noted above in greater detail, this is a quasi-experimental design meant to attempt to mimic the random assignment experimental design process. We created a PSM probability score using SAT, number of AP courses, number of dual credit courses, number of International Baccalaureate courses, and number of Honors courses as a proxy for academic and other course preps associated with likelihood of entering postsecondary. These are also associated with student intent to enter postsecondary, i.e., if they are taking AP or dual credit courses, they are more likely to intend to

enter postsecondary. To control for categorical variable differences, we matched students on race/ethnicity, English Language Learner (ELL), and Free and Reduced Lunch (FRL) participation factors as well as nesting in high school. The matched students were nested in the same high schools to minimize variation that would be caused by differing high school characteristics that could be associated with student success outcomes. We drew the students from the match from the participating CBE pilot high schools dataset provided by the ISBE.

Table 30 provides the student level analysis for the matched pair design. CBE participation was associated with higher rates of high school graduation including statistically significant differences both overall and for White students, though effect sizes were small. In the non-experimental analysis (Table 28), CBE participation was associated with lower rates of entry into postsecondary within 12 months of high school. However, in the quasi-experimental design (Table 30), these differences were somewhat mitigated for postsecondary entry. Postsecondary entry was lower overall, for African American and Hispanic/Latinx students, but the differences were not statistically significant.

Table 30
Matched Pair Comparisons: CBE vs non-CBE Outcomes for students at the pilot sites.

	N	HS Seniors who graduated	Transfers (excluded)	Cramer's V	Entered Postsecondary within 12 mos	Cramer's V
Matched students						
Not CBE	461	93.1%	2.6%		57.9%	
CBE	461	97.2%*	1.3%	.096	53.6%	.185
White matched students						
No CBE	246	92.7%	2.8%		58.5%	
CBE	246	97.2%*	1.6%	.102	61.0%	.025
African American Students						
No CBE	88	90.9%	2.3%		48.9%	
CBE	88	97.7%	1.1%	.147	38.6%	.171
Hispanic-Latinx Students						
No CBE	106	94.3%	2.8%		61.3%	
CBE	106	96.2%	0.9%	0.44	48.1%	.053
2+ Races Students						
No CBE	16	100%			75.0%	
CBE	16	100%		.096	56.3%	.264

* indicates statistically significant differences

The balancing tables for the matched student groups indicate that the groups were balanced. All differences less than Cohen's *d* of 0.2 should be fine, although it's best if under 0.1.

Table 31
Balancing Tables for CBE Participation Comparisons

	PSM matched		
	Mean or count		Difference effect size
Variables	control	CBE	
	N=461	N=461	

SAT	951.91	957.77	-.03
# Honors courses	1.65	1.49	.08
# AP courses	0.90	0.84	.04
#dual credit courses	0.44	0.42	.02
# IB courses	0.00	0.01	-.13
Free Reduced Lunch	216	216	
ELL	6	6	
Race			
White	246	246	
African American	88	88	
Hispanic Latinx	106	106	
Asian American	5	5	
2+ races	16	16	

We conducted binary logistic regressions with the matched student groups (see Table 32) to determine the associations between CBE participation and high school completion for seniors, and between CBE participation and the outcome of postsecondary enrollment within 12 months of school while controlling for several covariates. CBE participation was significantly associated with senior high school graduation but not enrollment in postsecondary. The relationship between CBE participation and high school completion is positively statistically significant [B= .961, Exp(B) = 2.614, p<.05]. Hence, holding all other variables in the equation constant, moving from non-CBE to CBE increases the odds of a senior completing high school by .961.

Table 32.
Regression results for Matched CBE participants with covariates and Senior high school graduation and Postsecondary entry outcomes

	Senior HS graduation (N=904, transfers excluded)			% grads enrolled in Postsecondary.w/in 12 mos (N=922)		
	B	SE	Exp(B)	B	SE	Exp(B)
CBE participation	.961	.463	2.614*	-.253	.155	.777
Race -White (reference)						
African American	.408	.566	1.504	.366	.236	1.441
Hispanic – Latinx	.189	.583	1.208	.361	.209	1.435
Asian American				-1.373	.850	.253
AIAN						
Haw or Pac Island						
2+ races				.029	.435	1.029
Free Reduced Lunch	-.137	.477	.872	-.772	.177	.462***
IEP	-.949	.472	.387*	-.644	.284	.525*
English Lang Learner	-.439	1.191	.645	.271	.657	1.311
Courses						
# of Honors	.511	.354	1.667	.133	.070	1.142
# of AP	-.644	.459	.525	.269	.116	1.308*
# of dual credit	.145	.366	1.156	.521	.118	1.684***
# of IB				-10.89	14200	.000
SAT score	.006	.002	1.006**	.003	.001	1.003***

Nagelkerke R2 (change)	.105***	.331***

Note: *p≤.05; **p≤.01; ***p≤.001

IV. Summary

A. Summary of Main Findings

There were 26 learning communities with over 100 schools/sites that had applied for the CBE waivers under the pilot program, though not all sites ended up implementing. Pilot schools reported 14,554 students participating in CBE in 2017 (9.1% of those in high school); 16,528 in 2018 (17.1% in high school); 18,767 in 2019 (26.0% in high school); 21,691 in 2020 (39.9% in high school); and 21,117 in 2021 (40.4% in high school). How much actual CBE participation this means for these students is unclear. From the interviews, we discovered that some schools were implementing CBE in just a few courses, some a few grades, and some were implementing it across the curriculum. However, the data reported to ISBE by schools is a simple binary "yes the student participated in CBE" or "no the student did not participate in CBE" which does not reflect the scope of the programming. Furthermore, the earliest adopters applied for participation as a CBE pilot site in 2017, so their first implementation year was 2018-19. Thus, even the first sites have not had a full 4-year high school cohort of students complete a CBE curriculum. Hence, any findings from this study should be treated as preliminary.

For the implementation evaluation, we were asked to answer several research questions related to whether the program is being implemented in the fashion those involved intended. During such an evaluation, researchers seek to answer questions such as – what aspects of the program has been implemented to this point, who has the program served and where, what has worked the way the stakeholders intended, what barriers have they encountered, what successful outputs and outcomes have they achieved, and what are the strengths and weaknesses they have identified to this point? The review is intended to be reflective and to help to provide feedback to strengthen the success of the program. The detailed answers to the ISBE research questions are available throughout the body of the narrative, and too lengthy to repeat here. In this summary of the evaluation, we are focusing on the survey results, the main themes from the interviews, and the basic facilitators and barriers we discovered from these data.

The survey results were mixed. The purpose of the survey was to gather data about what stakeholder perceptions were regarding the implementation of the program, and to gather data on perceived strengths and weaknesses of implementation to this point. The surveys were distributed to all stakeholders with the help of ISBE staff and school contacts. We received survey results from 16 primary contacts and 357 total stakeholders. For the analysis we sub-divided the stakeholders into three additional sub-categories for comparison: teachers, students, and parents. As with all surveys, these replies reflect the attitudes of respondents who chose to reply, so results should be interpreted with caution. The largest group of respondents were parents and teachers, and they tended to rate perceived benefits and successes of CBE much lower than students and designated school and district CBE contacts. However, this result was somewhat mitigated by analysis of correlations related to survey questions. There were significant correlations between answers to questions about level of staff and community support

and numerous questions related to success of implementation and perceptions of student success. There were even stronger correlations between the responses about success of implementation and perceptions of student success, when paired with responses to questions about whether a site had clear goals and strategies, and opportunities for faculty to collaborate.

Several themes emerged from the interview analysis. These are grouped around the following: CBE impacts on educators, systemic issues that hinder implementation, systemic themes that support implementation, CBE impacts on students, and structural issues that support implementation. We describe these in greater detail in the discussion of the interview results. We have summarized these below around facilitators/strengths and barriers/weaknesses. These are reported by those from whom we gathered the survey and interview data. Hence, these reflect the potential biases of those from whom we gathered data.

Barriers/weaknesses

Funding of CBE. The lack of funds to support CBE implementation and expansion was mentioned 80 times in the interview transcripts. Even schools that received funding to support implementation felt their program could expand if additional funding was provided.

Teacher burnout. The added workload that CBE required of teachers and administrators is a concern.

COVID-19 pandemic. Remote learning and COVD-19 was mentioned 103 times in interview transcripts. While it was often referred to as a barrier to CBE implementation, it was also pointed to as proof that CBE works.

Transcription of CBE credit. Transcripts and the formal awarding of credit was identified as an issue, both within the school system and as part of matriculation to postsecondary institutions. Both credit transfer and scholarship awards were noted as specific concerns. The term appeared 24 times in the interview transcripts.

Some negative survey results from teachers. Survey results indicate that of those who responded, teachers are split on their belief that CBE benefits students with about half reporting that they are positive or neutral regarding the impact of CBE on student performance, student engagement, and career and college readiness, while slightly over half view these negatively.

Some negative survey results from parents. Parents were much more critical in their beliefs regarding these same student outcomes. We saw some evidence of parent support for CBE, but we also saw quite a bit of criticism of CBE, particularly among those whose felt their students were doing well without changing the curriculum.

Facilitators/strengths

Use of waivers. Waivers were viewed as a key component of CBE implementation. The term appeared 39 times in the interview transcripts. Pilot sites applied waivers to “replace current graduation requirements with a competency-based learning system” (Illinois State Board of

Education Illinois Competency-Based High School Graduation Requirements Pilot Project Frequently Asked Questions, 2018). A total of 328 waivers were approved for CBE Pilot sites. According to data form ISBE, the most commonly approved waivers were for 1) length of school term; 2) specific requirements for graduation; 3) daily pupil attendance calculations; 4) required instructional time for summer school; and 5) required high school courses.

COVID-19 pandemic. As previously noted, remote learning and COVD-19 were referred to as a barrier to CBE implementation, but also a facilitator. It was pointed to as proof that CBE works.

Training and coaches. Schools that were part of Cohort 1 were afforded funds for training/coaching as part of CBE implementation. This is seen as a facilitator to those that were given access to this service. Access to coaches, or lack thereof, was mentioned 35 times in the interview transcripts.

Positive survey results from primary CBE site contacts. CBE primary contacts at the pilot sites felt positively about the benefits for students. They reported increased student engagement (3.56 on a 5 point Likert scale), improved student performance (2.94), higher rates of postsecondary entry (3.06), and increased career and college readiness (3.50). Students who replied to the survey provided similar positive reports.

CBE positive impacts on educators. Some teachers are supportive, others are not (see the survey data report under barriers/weaknesses). Some teachers reportedly like the increased freedom and choice in CBE, as well as the formative and summative assessments. They also like knowing the standard that is to be met.

Potential positive impacts for students. CBE program administrators have asserted CBE may be a tool for improving equity. There has been a racial/ethnic educational attainment gap for decades. CBE's focus on mastery of competencies, student choice, and student interest represent a strategy that may help to address the gap. Additionally, for some students CBE has produced a more positive environment for them. They are less likely to drop out knowing that there is a clearer path for them if they continue to meet standards.

Outcome evaluation summary

Outcome evaluation results were mixed. To open, the program has not been in place long enough to make a more complete determination as to impacts, so we recommend completing this analysis again once a four-year cohort has completed, and continue to follow up to see longitudinal trends. Due to the wide variety of learning outcome measurements employed in CBE, we were not able to do any comparison of student learning outcomes between CBE students and traditional students. Examining survey self-report data indicated a disagreement about improvements in student success measures. The largest group of survey respondents were parents and teachers, and they tended to rate perceived benefits and successes of CBE much lower than students and designated school and district CBE contacts. However, this result was somewhat mitigated by analysis of correlations related to survey questions. There were significant correlations between answers to questions about level of staff and community support and several questions related to success of implementation and perceptions of student success.

There were even stronger correlations between the responses about success of implementation and perceptions of student success, when paired with responses to questions about whether a site had clear goals and strategies, and opportunities for faculty to collaborate. In Tables 2 and 3, we see the wide differences in means between Primary CBE contacts and overall stakeholders on these indicators as well. Primary contacts reported favorably on student engagement, student performance, postsecondary entry rates, and increased career and college readiness, while the scores were much lower for the overall stakeholder group. Lastly, the preliminary outcome analysis on broad indicators such as high school completion and entry into postsecondary showed that student outcomes were about the same regardless of CBE participation. However, at the student level analysis, CBE participation was associated with higher rates of high school graduation both in the non-experimental (unmatched students) and quasi-experimental (matched students) analyses. In the non-experimental analysis, CBE participation was significantly associated with lower rates of postsecondary entry within 12 months of high school. However, in the quasi-experimental design, these differences were somewhat mitigated for postsecondary entry. Postsecondary entry was lower overall, for African American and Hispanic/Latinx students, but the differences were not statistically significant.

B. Recommendations

Based on the evaluation results, we are providing a series of recommendations for consideration. But first, we want to offer an overall comment. Like other states, Illinois has embraced an ambitious goal to increase educational attainment for its citizens with a goal of increasing the proportion of Illinois adults who hold postsecondary credentials to 60% (Illinois P-20 Council, 2022). The present trend data for Illinois suggests that the State will not meet this goal by continuing current practices. Furthermore, reflecting national trends, there is a substantial achievement gap in Illinois between educational outcomes from students of differing racial and ethnic backgrounds and income levels (Illinois State Board of Education, 2021b). In order to close these gaps and meet this goal Illinois will need to embrace evidence-based strategies to improve outcomes for students from all backgrounds. There is some support in the literature that Competency-Based Education could be one such effective practice (Evans et al., 2020), however Illinois will need to consider a variety of strategies for improvement across the P-20 spectrum. These should be evidence-based and assessed for success in order to ensure that the State is utilizing the best strategies it can to achieve success. Of course, deviating from existing practices comes with some risk that current trends could be made worse, so we must assess these early on to ensure students are not being harmed by adopting new strategies. However, if we have consistent evidence that current practices result in achievement gaps and will not move Illinois to its goals, then there is sufficient reason to try additional evidence-based strategies. Piloting programs like CBE, and then assessing them for effectiveness makes sense given this context. The CBE evaluation is preliminary at this point, and our findings are mixed. Monitoring needs to continue as we seek the best ways to help all Illinois students succeed.

State policymakers

- *Allow the CBE pilot to continue.* Although preliminary, the data suggest many students are benefitting from having CBE programming as an option. CBE participation appears to be associated with higher levels of high school completion across different student groups. Postsecondary entry results are not as positive for some groups but that could

very well be a self-selection issue. Since many students were offered CBE as an option because they were facing challenges to success in the current educational curriculum, they often were not on a postsecondary entry track for much of their educational careers. There is also conflicting opinion from the surveys about the degree to which CBE is impacting students. Continued data monitoring is needed on this outcome as the program matures beyond its initial implementation.

- *Continue monitoring outcome data*. Data on important student outcomes should be collected and analyzed longitudinally. The pilot sites have not been running long enough to produce an adequate analysis of student outcomes. At this point, all we are able to see are potential trends. This is especially important given the mixed outcome results regarding high school completion, and perhaps more importantly, postsecondary entry for all groups of students.
- *Add more outcome measures*. Additional outcomes should be added based on the intended benefits of CBE. In addition to school-developed learning measures, overall outcome measures could be expanded beyond high school completion and postsecondary entry. Others should be considered such as drop-out rates, absenteeism, student satisfaction measures, persistence in high school and postsecondary, and job placement (whether completing high school or college), postsecondary persistence and completion. It would be valuable to add a more nuanced data identifier for CBE participation since schools are implementing in different ways. Some are adding a few courses or a few classes, but others are implementing entire programs.

Schools, districts and State policymakers should consider the following:

- *Provide additional support for faculty*. Implementing CBE has been challenging for schools. It takes time and effort for faculty to introduce and maintain CBE instruction.
- *Provide training and coaches*. Schools in the first cohort felt they benefitted greatly from this opportunity.
- *Add visible datapoints for progress monitoring.* Transparency is a powerful tool for accountability to the public. When adopting new strategies, it is particularly important to provide data for the public, especially for areas like education where vulnerable populations like students are involved.

Schools/districts should consider the following:

- *For schools considering CBE, where possible, provide CBE programming alongside traditional curriculum*. Students and parents can then self-select into the program that they favor. This is not always possible depending on the size of the district, but it could obviate some of the greater resistance to CBE while giving students who could benefit from CBE the option to do so. Offering options mimics market behavior where people can make the choices that are best for them. However, making these choices require good information, underscoring the need for transparency with new programs.
- *Smooth transcript processes*. Schools are required to list partners in the pilot, but given the data we have collected, there appears to be a need for schools to continue to work with postsecondary partners to develop smooth pathways for processing transcripts. Additional planning with postsecondary institution partners around other transition elements would be valuable for creating smooth pathways as well.
- *Develop learning measures and use them to monitor student success in ways that are*

meaningful to students, schools and families. Schools are required under state statute to develop their own student learning outcome measures and monitor those. Measuring student learning is not easy and because of the nature of the data, it can be very difficult to quantify across programs. This type of data is very difficult to track statewide in meaningful ways. Schools wishing to ensure student learning success should develop strategies to analyze this data to monitor student success across different curricula. Being able to provide such evidence at the school level with transparency will help to validate alternative programs for various constituencies.

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Appendix A

Evans, Landl, and Thompson's (2020) Barriers and Facilitators related to K-12 CBE Implementation.

5 Elements of CBE from 2019 Working Definition

1. Assessment is a meaningful, positive, & empowering learning experience for students that yields timely, relevant, & actionable evidence.
Facilitators
1F1. Common standards-based assessments (Stump, Connor, et al., 2017; Stump, Fairman, et al., 2017) 1F2. Allowing students to retake assessments to demonstrate course competency allowing for flexible, student-paced learning (Scheopner Torres et al., 2018) 1F3. Consistent assessment and grading procedures (Scheopner Torres et al., 2015)
Barriers
1B1. Misalignment with standardized tests (Stump et al., 2018) 1B2. Wide variety in the complexity/quality of tasks used to assess mastery (Steiner et al., 2017) 1B3. Normative beliefs about learning and grades-reassessment & recovery (Scheopner Torres et al., 2018) 1B4. Fairness and student motivation concerns when students are able to reassess multiple times without consequence (Scheopner Torres, 2019)
2. Students receive timely, differentiated support based on their individual learning needs.
Facilitators
2F1. Robust strategies and structures for student support (Stump, Connor, et al., 2017)
Barriers
2B1. Lack of availability of frequent reliable data on how students perform on specific standards and skills (Bill & Melinda Gates Foundation, 2014) 2B2. Not providing instruction and student support for students (Scheopner Torres, 2019)
3. Students progress based on evidence of mastery, not seat time.
Facilitators
3F1. Effective LMS to track student progress toward proficiency and identify students in need of remediation or advancement (Stump & Silvernail, 2014) 3F2. Time for teachers to work together—PLCs (Evans & DeMitchell, 2018; Evans et al., 2019) 3F3. Common expectations of demonstrations of proficiency (Steele et al., 2014; Stump & Silvernail, 2014) and mastery and explaining mastery to parents (Bill & Melinda Gates Foundation, 2014) 3F4. Availability of technology and data (Evans & DeMitchell, 2018; Stump, Connor, et al., 2017; Steiner et al., 2017) 3F5. Common grading system (moving away from A-F) (Stump & Silvernail, 2015) 3F6. Professional development for staff and leadership around implementation policies and structures (Stump & Silvernail, 2014)
Barriers
3B1. Difficulty defining proficiency or mastery (Stump et al., 2018) and calibrating student grades (Bill & Melinda Gates Foundation, 2014; Steiner et al., 2017) 3B2. Lack of guidance on the development of competency statements (Scheopner Torres et al., 2015) 3B3. Different interpretations of standards, how they relate to proficiency levels and graduation (Stump, Johnson, et al., 2017; Stump & Silvernail, 2015) 3B4. Difficulty explaining mastery grading (Stump et al., 2018) and implementing consistently (Steiner et al., 2017) 3B5. Difficulty finding learning management systems to implement competency-based grading (Scheopner Torres et al., 2018; Steele et al., 2014; Stump & Silvernail, 2014) 3B6. Difficulty establishing consistent assessment and grading procedures (Evans & DeMitchell, 2018; Scheopner Torres et al., 2015) 3B7. Grading policies that do not incorporate competency-based approaches (Pane, Steiner, Baird, Hamilton, & Pane, 2017) 3B8. Desire not to lower graduation rates (Stump, Johnson, et al., 2017; Stump et al., 2018)

3B9. Normative beliefs about grading and work habits (Steele et al., 2014)
3B10. Difficulty selecting a grading scale and reporting system including content and work habits for parents and colleges (Stump et al., 2016)
3B11. Equity issues/disengagement by struggling students (Steele et al., 2014)
3B12. Concern that decreasing a focus on work habits (e.g., turning in work on time) works at odds with holding high expectations for students (Stump et al., 2018)
3B13. Inconsistent high school transcript expectations-procedures to estimate GPA, lack of course names, comprehensive profiles (Stump, Fairman, et al., 2017)
3B14. Variations in proficiency-based graduation requirements across schools and districts within a state (Stump, Johnson, et al., 2017)
3B15. Pressure to move students to the next grade without demonstrating proficiency (Steiner et al., 2017)

4. Students learn actively using different pathways and varied pacing.

Facilitators

4F1. Providing multiple pathways, including reassessment and recovery (Scheopner Torres, 2019; Scheopner Torres et al., 2018; Stump & Silvernail, 2015)
4F2. Lots of choices for students recognizing strengths and needs (Bill & Melinda Gates Foundation, 2014)
4F3. Use of online curriculum and multiple instructors (Steiner et al., 2017)
4F4. Robust intervention systems to help struggling students (Stump et al., 2018) and student support services (Evans et al., 2019)
4F5. Policy on seat time/Carnegie unit/how earn credit to graduate and online or blended learning, early college, dual or concurrent enrollment, and experiential learning opportunities (Brodersen, Yanoski, Mason, Apthorp, & Piscatelli, 2017)
4F6. Policy on accelerated curriculum, early high school credit, and early graduation (Brodersen et al., 2017)
4F7. Availability of technology (Stump, Connor, et al., 2017)

Barriers

4B1. Teachers reluctant to give students control of pacing, content and learning activities (Stump, Connor, et al., 2017)
4B2. Lack of time for differentiating content, structure, pacing to meeting student needs, and develop personalized lessons (Bill & Melinda Gates Foundation, 2014; Pane et al., 2017; Steiner et al., 2017)
4B3. Difficulty implementing a system that ensures students' learning is valued, credentialed, and evaluated similarly and different than traditional education (Shakman et al., 2018)
4B4. Figuring out the extent to which internships, out-of-school learning, and experiential learning can count for course credits toward graduation requirements (Steele et al., 2014)
4B5. External pressures to advance students at a certain pace (Steiner et al., 2017)
4B6. Difficulty changing traditional school structures (especially flexible pacing and flexible assessment of student learning) (Evans & DeMitchell, 2018; Evans et al., 2019)

5. Rigorous, common Expectations for learning (knowledge, skills, and dispositions) are explicit, transparent, measurable, and transferable.

Facilitators

5F1. Transparent expectations and standards (Stump & Silvernail, 2014, 2015)
5F2. Curriculum and assessments that are
5F3. competency-based (Evans & DeMitchell, 2018)
5F4. Common definitions of proficiency-based education (Stump & Silvernail, 2015)
5F5. Academically supported and challenged learners (Stump et al., 2016)

Barriers

5B1. Different definitions of proficiency (Stump et al., 2018) and relation to class assignments (Steele et al., 2014)
5B2. Different interpretations of standards, how they relate to proficiency levels and graduation (Stump, Johnson, et al., 2017; Stump & Silvernail, 2015)
5B3. Inconsistent expectations for mastery—moving students at a certain pace (Gross & DeArmond, 2018)
5B4. Tensions between competency-based grading and meeting grade-level expectations (Pane et al., 2017)

Additional Identified Elements

A. Cultural Reforms in Schools (e.g., school climate; coaching/mentorship; collegiality, etc.)
Facilitators
AF1. Development of a culture of engaged learning and supportive school climate (Stump & Silvernail, 2014); teacher collaboration (Stump et al., 2017) AF2. Coaching and mentorship through professional development (Steiner et al., 2017) with appropriate staffing (Evans & DeMitchell, 2018) AF3. Culture of academically supported and AF4. challenged learners (Stump et al., 2016) AF5. Informal collaboration with colleagues and common planning time (Steiner et al., 2017) AF6. Professional development for implementation (Evans & DeMitchell, 2018; Stump et al., 2016; Stump & Silvernail, 2014) AF7. Alignment of local beliefs and practices with policies and postsecondary expectations (Stump et al., 2016)
Barriers
AB1. Unintended consequences related to student work study practices and habits of learning (e.g., turning in work on time, re-do's/reassessment, etc.) (Stump et al., 2018) AB2. Difficulty securing buy-in/support from public (Stump et al., 2016) and from parents who do not understand the reform (Evans & DeMitchell, 2018; Shakman et al., 2018) AB3. Students frustrated by shifting and varying expectations; inconsistent approaches and activities; shifts in grading and assessment practices (Gross & DeArmond, 2018) AB4. Teachers/schools limited by resource constraints (including staffing and teacher turnover) (Bill & Melinda Gates Foundation, 2014; Pane et al., 2017; Steiner et al., 2017), bureaucratic rules, and misaligned incentives (Gross & DeArmond, 2018) AB5. Students struggling to take ownership for their own learning (Scheopner Torres, 2019)
B. Rigorous, common expectations for learning (knowledge, skills, and dispositions) are explicit, transparent, measurable, and transferable.
Facilitators
BF1. Transparent expectations and standards (Stump & Silvernail, 2014, 2015) BF2. Curriculum and assessments that are competency-based (Evans & DeMitchell, 2018) BF3. Common definitions of proficiency-based education (Stump & Silvernail, 2015) BF4. Academically supported and challenged learners (Stump et al., 2016)
Barriers
BB1. Different definitions of proficiency (Stump et al., 2018) and relation to class assignments (Steele et al., 2014) BB2. Different interpretations of standards, how they relate to proficiency levels and graduation (Stump, Johnson, et al., 2017; Stump & Silvernail, 2015) BB3. inconsistent expectations for mastery—moving students at a certain pace (Gross & DeArmond, 2018) BB4. Tensions between competency-based grading and meeting grade-level expectations (Pane et al., 2017)
C. Cultural Reforms in Schools (e.g., school climate; coaching/ mentorship; collegiality, etc.)
Facilitators
CF1. Development of a culture of engaged learning and supportive school climate (Stump & Silvernail, 2014); teacher collaboration (Stump et al., 2017) CF2. Coaching and mentorship through professional development (Steiner et al., 2017) with appropriate staffing (Evans & DeMitchell, 2018) CF3. Culture of academically supported and challenged learners (Stump et al., 2016) CF4. Informal collaboration with colleagues and common planning time (Steiner et al., 2017) CF5. Professional development for implementation (Evans & DeMitchell, 2018; Stump et al., 2016; Stump & Silvernail, 2014) Alignment of local beliefs and practices with policies and postsecondary expectations (Stump et al., 2016)
Barriers

CB1. Unintended consequences related to student work study practices and habits of learning (e.g., turning in work on time, re-do's/reassessment, etc.) (Stump et al., 2018)
CB2. Difficulty securing buy-in/support from public (Stump et al., 2016) and from parents who do not understand the reform (Evans & DeMitchell, 2018; Shakman et al., 2018)
CB3. Students frustrated by shifting and varying expectations; inconsistent approaches and activities; shifts in grading and assessment practices (Gross & DeArmond, 2018)
CB4. Teachers/schools limited by resource constraints (including staffing and teacher turnover) (Bill & Melinda Gates Foundation, 2014; Pane et al., 2017; Steiner et al., 2017), bureaucratic rules, and misaligned incentives (Gross & DeArmond, 2018)
CB5. Students struggling to take ownership for their own learning (Scheopner Torres, 2019)

D. Systems-Based Reforms

Facilitators

DF1. Professional time for collective thinking and work (Stump, Connor, et al., 2017)
DF2. School-reform structures (scheduling, intervention/enrichment blocks and policies) (Evans & DeMitchell, 2018)
DF3. Systems-thinking (Stump & Silvernail, 2014); clarity and consistency in the required components of the law (Stump, Connor, et al., 2017; Stump & Silvernail, 2017)

Barriers

DB1. Lack of CBE models or empirical research base to guide development and implementation (Scheopner Torres et al., 2015; Silvernail et al., 2014)
DB2. Adopting reforms before understanding the problems that need to be addressed (Gross & DeArmond, 2018)
DB3. Lack of systems approach shifting from isolation of characteristics as they relate to each other (Silvernail et al., 2014)
DB4. Difficulty changing long-held practices, structures, and policies in schools (Evans & DeMitchell, 2018)
DB5. Lack of guidance on competency-based education implementation (Scheopner Torres et al., 2015)

E. Policy Reforms (e.g., seat time/Carnegie unit; how earn credit to graduate; proficiency expectations)

Facilitators

EF1. State- and district-level policy changes about what counts as credit to graduate (Brodersen et al., 2017)
EF2. Policies defining proficiency and progress (Stump & Silvernail, 2014)
EF3. State level policies (Evans et al., 2019)

Barriers

EB1. Difficulty securing public support (Stump et al., 2016)
EB2. Misaligned state requirements for reporting proficiency outcomes or seat time (Pane et al., 2015)
EB3. Differences between what is required by law and what is encouraged by reformers (Stump et al., 2016, 2018)
EB4. Misalignment among policies related to partial/credit for completing course, multi-disciplinary courses, seat time, and flexible design of courses (Pane et al., 2017)
EB5. Difficulty translating policy into practice (Silvernail et al., 2014) including assessing progress of competencies and grading (Scheopner Torres et al., 2018)

F. Unspecified—the authors did not attempt to attribute the results to one specific element or factor

Facilitators

FF1. Intermediary organization and SMS enabling district and building capacity (Steiner et al., 2017)
FF2. Recommendations (Johnson, 2019)
FF3. Keep local control/flexibility
FF4. Maintain consistency
FF5. Establish uniform minimum expectations for high school diploma
FF6. Build leadership capacity
FF7. Specify policy recommendations

Barriers

FB1. Evolving nature of the continuum of CBE domains (Haynes et al., 2016)

FB2. Lack of time to implement as intended (e.g., instructional and planning for teachers to engage in defining or refining competencies, aligning instruction, assessment, find/create curriculum materials, implement personalized and mastery- based learning, and grading to competencies) (Evans & DeMitchell, 2018; Scheopner Torres et al., 2018; Steiner et al., 2017; Stump et al., 2016; Stump, Johnson, et al., 2017)
FB3. Lack of resources for implementation (Scheopner Torres et al., 2015; Stump, Johnson, et al., 2017; Stump et al., 2018) and guidance on implementation (Stump & Silvernail, 2015)
FB4. Lack of fidelity of implementation due to school-related characteristics (SES, ability level, resources; Stump, Connor, et al., 2017)
FB5. Student disciplinary problems (Bill & Melinda Gates Foundation, 2014)
FB6. Logistical issues with devices-slow internet, inadequate bandwidth, hardware (Pane et al., 2017)
FB7. Lack of clarity on how mastery should be implemented (Steiner et al., 2017)

Source: From the systematic literature review of CBE by Evans, Landl, and Thompson (2020) entitled "Making sense of K-12 competency-based education: A systematic literature review of implementation and outcomes research from 2000 to 2019" published in *The Journal of Competency-Based Education*, *5*(4), e01228.

Appendix B

Primary administrator survey results

	N	Minimum	Maximum	Mean	Std. Deviation
Qvii.:Which stage of implementation do you think best describes your school/site	16	1	4	2.81	0.834
Qviii.:How much CBE programming has your school/site added?	16	1	3	1.69	0.873
Q1-A:Our staff believes that all children have the capacity to achieve at high levels.	16	2	5	4.25	0.775
Q1-B:Our community believes that all students can learn.	16	3	5	4.44	0.629
Q1-C:Our staff supports the need for change.	16	3	5	3.75	0.683
Q1-D:Our community supports the need for change.	16	2	5	3.50	0.816
Q1-E:There is broad support among staff for implementing Competency-Based Education practices.	16	2	5	3.50	0.894
Q1-F:There is community support for change to Competency-Based Education.	16	2	4	3.06	0.680
Q1-G:At our school/site, there are high aspirations for postsecondary learning.	16	2	5	4.19	0.911
Q2-A:We have incorporated Competency-Based Education strategies into our school/site and community vision and goals.	16	2	5	4.38	0.885
Q2-B:Our school/site has identified clear goals/outcomes for implementing CBE.	16	2	5	4.13	0.957
Q2-C:Our school/site has identified strategies for supporting the changes needed to implement CBE.	16	2	5	4.06	0.929
Q3-A:Our school/site has developed short- and long--range professional development plans aligned with CBE implementation.	16	2	5	3.81	0.750
Q3-B:Our school/site has engaged professional staff in research and data analysis relevant to CBE implementation.	16	2	5	3.81	0.911
Q3-C:Our school/site has provided opportunities for faculty to collaborate around work related to CBE.	16	3	5	4.31	0.704
Q4-A:Our school/site has modified the teacher evaluation system to reflect CBE.	16	1	4	1.94	0.929
Q4-B:Our school/site has identified/developed common proficiencies/competencies across the same courses/grade levels which may be taught by different teachers.	16	2	5	4.06	0.998
Q4-C:Our school/site has identified/developed cross-curricular content knowledge proficiencies/competencies common across subject areas.	16	1	5	3.31	1.302
Q4-D:Our school/site has identified/developed common, cross-curricular proficiencies/competencies for core skills (higher order thinking, reading, writing, numeracy).	16	1	5	3.44	1.209

Q4-E:Our school/site has identified/developed behavior ("non--cognitive," work ethic, or habits of practice) proficiencies/competencies.	16	2	5	3.81	1.109
Q4-F:Our school/site has identified/developed a common language for a taxonomy of learning.	16	1	5	3.44	1.031
Q4-G:Our school/site has defined benchmarks of proficiency at key intellectual development stages.	16	1	5	3.38	1.147
Q4-H:Our school/site has created curriculum scope and sequence options aligned with proficiencies/competencies.	16	2	5	4.00	0.966
Q4-I:Our school/site has identified methods of acceleration for students exceeding proficiencies/competencies.	16	2	5	3.56	0.892
Q4-J:Our school/site has identified methods of intervention for students not meeting proficiencies/competencies.	16	1	5	3.63	1.204
Q4-K:Our school/site has adapted instructional practices based on research, professional learning standards and student performance.	16	2	5	3.75	1.000
Q4-L:Our school/site has identified formative assessments that show student proficiency levels in standards.	16	2	5	3.69	1.138
Q4-M:Our school/site has identified performance-based assessments that determine student proficiency levels in standards.	16	2	5	3.38	1.088
Q4-N:Our school/site has developed student achievement reports that identify student proficiency levels or mastery towards competencies.	16	1	5	3.44	1.413
Q5-A:Our school/site provides multiple pathways and opportunities for students to demonstrate proficiency of required competencies.	16	2	5	3.81	0.981
Q5-B:Our school/site provides students opportunities for input and choices in the demonstration of their learning.	16	2	5	3.38	1.088
Q5-C:Our school/site provides learning opportunities that extend beyond the school building.	16	2	5	3.88	0.806
Q5-D:Our school/site provides learning opportunities that extend beyond the traditional school day.	16	2	5	4.06	0.772
Q6-A:Our school/site has established accessible intervention systems available within the school day.	16	1	5	3.81	1.047
Q6-B:Our school/site has established accessible intervention systems available beyond the school day.	16	2	5	3.63	0.885
Q6-C:Our school/site has established progression criteria and proficiencies/competencies that are published and clear to all school, parent, and community stakeholders.	16	1	5	3.19	1.276

Q6-D:Our school/site has established a system of advancement that is based on student demonstration of proficiency or above on required standards.	16	1	5	3.38	1.310
Q6-E:Our school/site has established criteria for graduation and/or certification based on student demonstration of proficiency on required standards.	16	1	5	3.06	1.181
Q6-F:Our school/site has established a system that allows students to advance at their own pace.	16	1	5	3.00	1.033
Q6-G:Our school/site has established options for remediation, as needed, to help students meet proficiencies/competencies in a timely manner.	16	1	5	3.44	1.263
Q6-H:Our school/site has established options for acceleration to help students advance to the next level when they are ready.	16	1	5	3.31	1.078
Q6-I:Our school/site has established a system for tracking student progress on specific learning goals.	16	1	5	3.63	1.258
Q6-J:Our school/site has implemented a Learning Management System (LMS) that allows anytime access to learning targets and materials.	16	1	5	3.75	1.291
Q6-K:Our school/site has implemented a technology system that is used to support standards--based practices.	16	1	5	3.44	1.459
Q7-A:Our school/site has experienced increased student engagement.	16	1	5	3.56	1.365
Q7-B:Our school/site has experienced increased educator engagement.	16	1	5	3.63	1.258
Q7-C:Our school/site has experienced improved student performance on standardized assessments.	16	1	5	2.94	1.063
Q7-D:Our school/site has experienced higher levels of student postsecondary aspirations.	16	2	5	3.50	0.816
Q7-E:Our school/site has experienced higher rates of postsecondary enrollment.	16	2	4	3.06	0.574
Q7-F:Our school/site has experienced increased college and career readiness.	16	2	5	3.50	0.816
Q7-G:Our school/site has experienced greater community investment in education.	16	2	5	3.25	0.931

Appendix C

Stakeholder survey respondents

	N	Minimum	Maximum	Mean	Std. Deviation
Qvii.:Which stage of implementation do you think best describes your school/site:	357	1	5	3.56	1.003
Qviii.:How much CBE programming has your school/site added?	357	1	4	2.42	1.088
Q1-A:Our staff believes that all children have the capacity to achieve at high levels.	348	1	5	3.86	1.089
Q1-B:Our community believes that all students can learn.	351	1	5	3.93	1.103
Q1-C:Our staff supports the need for change.	344	1	5	3.21	1.141
Q1-D:Our community supports the need for change.	341	1	5	2.97	1.131
Q1-E:There is broad support among staff for implementing Competency-Based Education practices.	342	1	5	2.52	1.255
Q1-F:There is community support for change to Competency-Based Education.	324	1	5	2.38	1.214
Q1-G:At our school/site, there are high aspirations for postsecondary learning.	344	1	5	3.53	1.163
Q2-A:We have incorporated Competency-Based Education strategies into our school/site and community vision and goals.	342	1	5	3.58	1.125
Q2-B:Our school/site has identified clear goals/outcomes for implementing CBE.	347	1	5	2.99	1.347
Q2-C:Our school/site has identified strategies for supporting the changes needed to implement CBE.	348	1	5	2.86	1.335
Q3-A:Our school/site has developed short- and long--range professional development plans aligned with CBE implementation.	334	1	5	2.91	1.325
Q3-B:Our school/site has engaged professional staff in research and data analysis relevant to CBE implementation.	329	1	5	2.82	1.360
Q3-C:Our school/site has provided opportunities for faculty to collaborate around work related to CBE.	337	1	5	3.25	1.391
Q4-A:Our school/site has modified the teacher evaluation system to reflect CBE.	288	1	5	2.53	1.232
Q4-B:Our school/site has identified/developed common proficiencies/competencies across the same courses/grade levels which may be taught by different teachers.	336	1	5	3.32	1.291
Q4-C:Our school/site has identified/developed cross-curricular content knowledge proficiencies/competencies common across subject areas.	332	1	5	2.70	1.256
Q4-D:Our school/site has identified/developed common, cross-curricular proficiencies/competencies for core skills (higher order thinking, reading, writing, numeracy).	334	1	5	2.77	1.266

Q4-E:Our school/site has identified/developed behavior ("non--cognitive," work ethic, or habits of practice) proficiencies/competencies.	339	1	5	2.91	1.386
Q4-F:Our school/site has identified/developed a common language for a taxonomy of learning.	326	1	5	2.84	1.324
Q4-G:Our school/site has defined benchmarks of proficiency at key intellectual development stages.	329	1	5	2.81	1.280
Q4-H:Our school/site has created curriculum scope and sequence options aligned with proficiencies/competencies.	337	1	5	2.93	1.346
Q4-I:Our school/site has identified methods of acceleration for students exceeding proficiencies/competencies.	339	1	5	2.65	1.351
Q4-J:Our school/site has identified methods of intervention for students not meeting proficiencies/competencies.	341	1	5	2.92	1.399
Q4-K:Our school/site has adapted instructional practices based on research, professional learning standards and student performance.	333	1	5	2.91	1.320
Q4-L:Our school/site has identified formative assessments that show student proficiency levels in standards.	336	1	5	3.04	1.340
Q4-M:Our school/site has identified performance-based assessments that determine student proficiency levels in standards.	332	1	5	2.87	1.318
Q4-N:Our school/site has developed student achievement reports that identify student proficiency levels or mastery towards competencies.	338	1	5	2.89	1.286
Q5-A:Our school/site provides multiple pathways and opportunities for students to demonstrate proficiency of required competencies.	344	1	5	3.06	1.303
Q5-B:Our school/site provides students opportunities for input and choices in the demonstration of their learning.	345	1	5	2.86	1.292
Q5-C:Our school/site provides learning opportunities that extend beyond the school building.	337	1	5	2.97	1.319
Q5-D:Our school/site provides learning opportunities that extend beyond the traditional school day.	338	1	5	3.20	1.315
Q6-A:Our school/site has established accessible intervention systems available within the school day.	339	1	5	3.24	1.349
Q6-B:Our school/site has established accessible intervention systems available beyond the school day.	336	1	5	3.15	1.325
Q6-C:Our school/site has established progression criteria and proficiencies/competencies that are published and clear to all school, parent, and community stakeholders.	337	1	5	2.64	1.338

Q6-D:Our school/site has established a system of advancement that is based on student demonstration of proficiency or above on required standards.	339	1	5	2.78	1.321
Q6-E:Our school/site has established criteria for graduation and/or certification based on student demonstration of proficiency on required standards.	332	1	5	3.01	1.343
Q6-F:Our school/site has established a system that allows students to advance at their own pace.	342	1	5	2.65	1.297
Q6-G:Our school/site has established options for remediation, as needed, to help students meet proficiencies/competencies in a timely manner.	343	1	5	3.07	1.306
Q6-H:Our school/site has established options for acceleration to help students advance to the next level when they are ready.	343	1	5	2.66	1.321
Q6-I:Our school/site has established a system for tracking student progress on specific learning goals.	340	1	5	3.05	1.298
Q6-J:Our school/site has implemented a Learning Management System (LMS) that allows anytime access to learning targets and materials.	333	1	5	3.19	1.397
Q6-K:Our school/site has implemented a technology system that is used to support standards--based practices.	336	1	5	3.07	1.367
Q7-A:Our school/site has experienced increased student engagement.	335	1	5	2.33	1.336
Q7-B:Our school/site has experienced increased educator engagement.	335	1	5	2.55	1.289
Q7-C:Our school/site has experienced improved student performance on standardized assessments.	294	1	5	2.22	1.275
Q7-D:Our school/site has experienced higher levels of student postsecondary aspirations.	285	1	5	2.31	1.218
Q7-E:Our school/site has experienced higher rates of postsecondary enrollment.	260	1	5	2.27	1.204
Q7-F:Our school/site has experienced increased college and career readiness.	294	1	5	2.29	1.338
Q7-G:Our school/site has experienced greater community investment in education.	308	1	5	2.27	1.267